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In times like these
SEEDS *of* FUTURE GROWTH
are Sown

INVARIABLY, in times like these, there appear on the business horizon men of vision who see clearly not today alone but ten years ahead. ◆ They sow the seeds of future growth. They plan, organize, revamp. They get ready for the inevitable upward swing—in fact, they help bring it about by their contagious optimism, confidence and faith. ◆ Their courage in the future, intelligent buying, sound management and able merchandising bring sales today and growth tomorrow. And new names appear in the business headlines. ◆ Industrial Rayon feels kinship with every user of rayon yarn who wants to push ahead. It offers not only a quality rayon yarn of outstanding merit but a degree of cooperation that has made this organization the fastest growing rayon company in America.

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COTTON

Vol. 95 May, 1931 No. 7

THE TRUSTEE ACCEPTS THE TRUST

A Word Picture of the New President of the American Cotton Manufacturers' Association.

THIS STORY has its beginning in a dollar, bestowed by a father upon a son fresh from college some sixteen years ago. The dollar itself is not significant, except that it represented an idea and a purpose. The father, a famous industrialist by his own efforts, anticipated the day when his mantle, as directing executive of a group of cotton mills and other enterprises, must be assumed by a younger man. Since the son was the logical successor, the father, out of his own experience, desired to make certain that his son demonstrate qualifications for the job more important than mere filial succession to the responsibilities of his father.

And so, investing his son with no more material capital than he himself started with, he bade him go out into business "on his own." Whether the exact amount of one dollar is only symbolic, is largely immaterial. The father wanted the son to demonstrate his caliber unaided or unhampered—as you will—by the re-assuring influence of an established business.

Certain business and personal characteristics which have subsequently become even more clearly defined in the activities of this young man at once manifested themselves. The several cotton mills operated by his father produced, during manufacturing operations, sizable amounts of reclaimable waste. That was the idea: Take that waste, reclaim or utilize it. The enterprise grew so rapidly that soon it was necessary to seek outside sources of material, and so the young man hit the trail seeking to purchase the by-products of other plants. That was merchandising, for selling one's money for another's commodity is just as much a merchandising job as selling a commodity for another's money.

Thus it was that Cason Jewell Callaway, son of Fuller Earle Callaway, started his actual career, in the establishment and operation of the Valley Waste Mills.

There is an unlimited wealth of industrial romance, of human interest, progress and accomplishment interwoven with Southwest LaGrange, Ga., the seat of the activities of "The Chief," and his son and successor, Cason. However, since Cason has now been elevated to the presidency of the American Cotton Manufacturers Association—it is proper that this sketch shall deal largely with him as an executive and a personality.

For the purposes of record, it should be stated that Cason was born at LaGrange on November 6th, 1894. After attending the LaGrange elementary schools, he was a student at the Bingham School for Boys at Asheville and later at the University of Virginia. Subsequently, he completed a thorough course in accounting at the Eastman School in Poughkeepsie. Then came the first marker in his business career, which has already been noted.

In 1917, Cason volunteered for service in the Navy, became an ensign, and later a lieutenant, being transferred to inactive service on February 1, 1919. At this time the second important epoch in his business life occurred, for, returning home, he became active assistant to his father, who was treasurer and director of sales of the various mills and other enterprises in the organization. There were in the organization at the time six cotton mills producing semi-finished fabrics and yarns for other industries. Gradually, the younger Callaway assumed official positions with these companies, and now is president of them. They are: Milstead (Ga.) Mfg. Co.; Manchester (Ga.) Cotton Mills; Unity Cotton Mills, Elm City Cotton Mills, Unity Spinning Mills, and Hillside Cotton Mills, LaGrange, Ga.; (the Valley Waste Mills representing a division of the latter company).

In 1922 the mills established their own selling agency, under the name of Callaway Mills, Inc., and Cason J. Callaway has been the president of this organization since its formation. This was perhaps the third marker in his career.

Subsequent to his active entrance into the businesses, and largely under his direction, Cason's activities have grown in the development and operation of six other mills. These developments form an interesting and absorbing story in themselves, but since this must be largely a personal character sketch, they can be mentioned only for record, and for their part in the picture of the man. They are:

Valway Rug Mills, the largest manufacturer and distributor in the country of colorfast cotton chenille rugs and towels; Truline, Inc., manufacturer of cotton breeches; Rockweave Mills, producers of cotton textiles for laundries; Oakleaf Mills, by far the country's largest manufacturer of specialized wiping cloths—and the Calumet Mills, operating two plants at Hogansville and one at LaGrange, purchased as a group in 1928. (One of the Hogansville mills having only recently been sold to the U. S. Rubber Company.)

So much for the business record, in skeleton form, except to mention in passing that several years ago, with the growth of his manufacturing and merchandising businesses, Cason relinquished active participation in the operation of a bank, a development company, and several other enterprises—concentrating upon his fundamental and major activities as a textile man.

Merchandising Ability is Outstanding.

Now to consider the man. From a strictly business standpoint, Cason Callaway's most outstanding characteristic undoubtedly is his innate merchandising ability, and his exercise of it has placed him in the front rank of a group of merchandisers which, in this industry, is woefully small in number. The limited number strengthens rather than lessens the significance of belonging to the group. For the way of the pioneer is hard. The commentator of later years will, from a more sharply defined perspective, denominate Cason Callaway as a true pioneer in this line. Much of his intuitive ability in this direction undoubtedly was inherited from his illustrious father, for events have already demonstrated that Fuller Callaway was ahead of his day in textile merchandising, just as his son is pioneering in new and broader fields.

The first outstanding evidence of Cason as a merchandiser came in the setting up of the mills' selling agency, after a friendly severence of relations with their former connection. Observation had proven to him that changed conditions made the step a logical one—and, after thorough research, plans were formulated and effected.

Then came the diversification in product. The businesses in which Cason suncceeded his father were prosperous, and in every way successful. But new times came, and Cason and his organization, sensing that greater fields of textile manufacture and distribution would be necessary—that there is no progress in standing still—began to "look around," just as the young collegian had done in developing the waste utilization business.

The first result was an experiment in the manufacture of cotton chenille rugs, which grew, with conscientious manufacturing and progressive merchandising, into the largest manufacturer and distributor in the country of colorful, fast-dyed cotton chenille rugs. Then research indicated possibilities in other lines, and careful planning and energetic activity developed the other diversified lines already listed. It is significant that the Callaway enterprises produce all of the basic raw materials utilized in the ramified list of products of their plants, from the material which itself was the foundation of the beginning of the business—cotton. That presents a moral which could well be developed into a story of its own.

But back to the man. To those closely identified with the expansion into these diversified enterprises, another dominant trait in the business philosophy of Cason Callaway stands out, and that may be summed up in the terse statement: Get the facts! The graveyard of business shelters many an idea which was abortive in its execution because its originators and executors had failed to anticipate contingencies. In every phase of his activity, Callaway is the relentless pursuer of facts, and he isn't satisfied, and usually won't proceed on any piece of business until he has them all. So, market and manufacturing research investigations and analyses, involving the expenditure of money and time and effort to an extent unheard of and well-nigh unbelievable by many of his contemporaries, have preceded his entrance into new fields of endeavor—and the signal success of his enterprises has conclusively demonstrated, to those who were originally skeptical, the wisdom of his philosophy.

The Importance of Having a Plan.

Another characteristic in his business activity is his belief in having a plan and sticking to it. Around the several plants comprising his manufacturing enterprises are several village developments. Consistent with the policy of human relationships and village improvement established by his father, Cason has continued a program of physical betterment of the villages and the homes in them. On the wall of his office is a landscape architect's diagram indicating a twenty-year plan for village improvement. A definite year-by-year program has been laid out, looking to the achievement of this final result. Each year the work accomplished is colored in on a duplicate map, and he plans that in twenty years the two diagrams shall be duplicates.

Quality is another watchword of Cason Callaway. First, in the generally applied sense, he is insistent upon having the highest quality put into the products of his plants. Perhaps his greatest pride in his enterprises is in this achievement. Certainly most prominently displayed is his pride in the fastness qualities of the products of "the rug mill". The visitor to Southwest LaGrange, attracted by descriptions of the intensely human program of "making American citizens and running cotton mills to pay the expenses," as begun and described by the elder Callaway, or by the remarkable industrial progress there, may be escorted by another executive through the other phases of the business—but Cason will take him to "the rug mill," personally. His associates will tell you that this is his hobby; he will proudly emphasize the guarantee of fastness to light, washing, and very nearly everything else that goes with every product. His justifiable pride is undoubtedly the result of the months of research and effort, of study, of adaptation, going into them. And he'll ex-

plain it by saying that in developing the rug mill he learned why a woman is so fond of her children: "because they are so much trouble."

When a man is selected as president of the American Cotton Manufacturers Association, there is naturally an intensified interest in him as a personality. In this case it is especially true when this office, the highest honor within the power of southern cotton manufacturers as a body to confer, is bestowed upon a man not yet 37 years of age.

In the first place, Cason Callaway is a tireless worker himself, and by his own consistent and persistent application inspires this same attitude among his associates in his extensive and diversified organization. His own definition of work is that it is not entirely the expenditure of effort, but a man's ability to accomplish a task better than when he started it. As an executive, his remarkable ability to analyze a problem, to get to the bottom of a proposition, and to clarify a confused situation, is outstanding; his approach to a problem, regardless of its character, is a simple one, and that is to determine as far as possible *all* of the facts that have a bearing upon it. When this has been done, he feels that further progress to a solution is simplified, for, as he expresses it, there is usually one correct answer to a problem, and if all the facts are brought out, the answer will virtually suggest itself.

His unusual ability to take facts, once assembled, and assign to each its relative value in the case, is another notable characteristic. This has demonstrated itself many a time in his association activities to date, when, in a group of manufacturers, a discussion has been confused and obscured by arguments pro and con. At such times he has risen, when called upon, fastened the lower button of the sport-type coat he is accustomed to wearing, put his hands in the hip pockets of his trousers, and in a very straight-forward, simply-spoken manner, gathered all of the loose ends of the discussion from blind alleys of misinterpretation, and clarified the issue.

The Callaway enterprises are operated by a well-rounded organization made up of many types of men, some young, some older, all keyed up to the enthusiasm of the young, directing head. There is throughout the organization an evident personal relationship between the executives and Cason Callaway. In so extensive an organization, detail and system could easily destroy that relationship, but Cason has retained and strengthened it, even with increasing activities, by remaining himself a natural, approachable person.

Mention has been made of Fuller Callaway's famous statement that he was "making American citizens and running cotton mills to pay the expenses." Cason retains this ideal, with the philosophy that the only welfare work carried on throughout his enterprises is that of helping people to help themselves; to make them independent. In working toward this aim, he carries out to an unusual degree a policy of insisting that those associated with him save money and pay their debts promptly. Every item of expenditure in his own personal business, as well as that of his organization, is carefully budgeted, and these budgets must be rigidly observed.

Personally, Cason Callaway is extremely social and likeable. Adaptable and natural under all circumstances, he has an attractive personality which is unobscured by complexes of any kind. He rides no special hobby, finding recreation at the moment largely in golf. Given, like his father, to homely, philosophical expressions, he is interested more in basic things; his interests in the realm of literature and art and the like are only casual. But he does like folks, and "company." His intimate associates are largely men with whom he has grown up in the small Georgia town which has been his home since birth. He doesn't like being alone. Whereas many a leader desires solitude for reflection and study, Callaway clarifies his ideas through discussion.

On April 3rd, 1920, Cason was married to Miss Virginia Hollis Hand, of Pelham, Ga., and they have three children: Virginia Hand, 9; Cason J., 5; and Howard Hollis, 3. The father has very definite ideas and plans regarding the children, as he does in the conduct of his business. Right now, a daily ritual in the household is that he and the children join in setting-up exercises by radio every morning. He has recently purchased a 2,500-acre tract, about 30 miles from LaGrange, containing the famous Blue Springs, where he is just finishing the erection of a dam for making a huge boating and fishing lake. Later a house will be built, and this will be his week-end residence. The children, he says, are going to learn how to pick berries, and chop wood, and build fires. There'll be no power boats on the lake—"and that goes double for outboard motors," he says—because he wants the children, and himself, to get the full benefit of recreation; "to paddle their own canoe"—and when you know Cason Callaway, you know that is more than a trite saying because it is verily a part of his practical philosophy.

He has laid out a definite plan of development for this country place, restraining his own enthusiasm concerning it in order to abide by a program, so that he can see it grow and develop according to a well-defined plan. And here, too, is revealed another consistency in his philosophy. This philosophy of definitely laying-out a job and following a defined plan to its conclusion is carried into every phase of his activity. It is a safe prediction that, having been willing to assume this new job as president of the American Association, he has already set in his own mind certain definite programs of activity and accomplishment for it to achieve during his term of office; and just as certainly his best efforts will be given to their execution.

IT IS significant that the first sketch in the series of which this is a part, appeared in the June, 1917, issue of COTTON and described the father of the subject of the present sketch, he having been elected as president of the American association during that year.

For the first time in the association's history, a son of a past-president has been named to the position.

Recent Trends in Mill Processes and Auxiliary Equipment

As the Engineer Sees Them

By Cherry L. Emerson
Vice-Pres. and Chief Engineer,
Robert & Co., Inc., Atlanta, Ga.

THE TEXTILE INDUSTRY was the first to emerge from the handicraft era into the machine age. The first factory to be driven by Watt's steam engine was a cotton mill. The form of process and design of textile machinery was, accordingly, crystallized very early, compared with those of other industries. After the first development followed a period almost of stagnation, except for detail improvements. Some ten years ago business became very difficult for the manufacturers of textile machinery and with some minor exceptions, has so continued up to the present writing. These very difficulties produced many improvements in design and construction of machinery.

Opening and Picking Improvements.

The first process in the cotton mill, that is, the opening up of the bales, felt the first impetus of development. The entire mill operation was bettered by a more thorough cleaning of the fiber before it reached the picker room. Among the machines introduced were the vertical opener, the Buckley beater, and the Centrif-Air cleaner. In the study of cotton preparation, it developed that there were advantages in providing a rest period in bins for loose cotton. This permitted the fibers to uncurl and aerate, and made the following operations easier.

Most mills formerly used three lines of picking machines in series. This practice is being superseded by the one-process machine which during the last year or so has found universal acceptance. This picker not only materially reduces the labor required, but also produces a cleaner and more uniform lap for the card room.

Skipping over to spinning, we find that long draft equipment has made a definite place for itself. This device has roughly doubled the amount of drawing out done on the spinning frame and thereby reduced the amount of preparatory equipment needed between cards and spinning frames. Old mills installing long draft need to make a complete re-study of these preliminary operations. Long draft has resulted in a more uniform yarn and reduced the requirement for operatives in the preliminary process.

The system of warping and spooling which was in general use ten years or more ago is now entirely obsolete. High speed spoolers making disc shaped packages for use in specially designed high speed warpers, or else special winders with warpers of the usual type but re-designed for high speed, have replaced them. On account of the large hourly production the number of machines required has been reduced with a corresponding reduction in operatives and required floor space.

Past experimental work is bringing us today for acceptance, a new type of carding machine with less than half as many flats as the present design, and also a clothing of straight wire which may not require as much cleaning. A subsidiary device is offered which strips continuously with the card in operation.

A new type of automatic loom is about ready for the market which, among other advantages, permits higher picking speed on account of its heavier design and which has a device to divide the warp as an indicator at the broken thread.

We also possess today, thanks to redesigns over the last ten years, machines which in general have heavier construction, more accurate fits, more precision in operation, and other features to permit higher operating speeds. A feature of many redesigns has been the incorporation of anti-friction bearings.

Development goes on and we look to the future for still better equipment. Experiments are being made to apply long drafts to drawing frames. There are interesting possibilities in the use of materially larger packages in spinning, although any great advantage here may necessitate new materials for rings and travelers or some new device to replace the traveler.

A still more remote possibility is the combination of two or more operations into one by the production of a new machine. Slubbers, intermediates and roving frames might be thus combined, or the spinning frame and spooler be put together to produce a pack-

ABROAD and general picture of recent and up-to-date trends which have taken place in cotton textile manufacturing is presented in this paper by Mr. Emerson. It was prepared for the annual meeting of the American Society of Mechanical Engineers, in Birmingham, Ala., and is reproduced by permission of the Society.

Trends in manufacturing equipment, the adoption of auxiliary services such as control devices, heating and humidifying equipment, methods of driving machines and developments in lighting, electricity, etc., are covered in this extremely interesting and comprehensive discussion.

age going direct to the warper creel. Nothing practical, however, is yet in sight along these lines.

To generalize concerning these trends in machinery we may say that speeds have increased and with it, production per machine. The number of operatives per pound of product is materially reduced. These effect a reduction in floor space and village housing and ultimately in the cost of machinery to furnish a given output. A better and more uniform product is made. The future seems to hint a continuation of these improvements, but at a less rapid rate.

Auxiliary Services.

Appreciation of the importance of various auxiliary services in obtaining a better, larger and more uniform production has grown remarkably in the last decade. The setting of proper humidity, the control of heat, the supplying of ample artificial illumination, the precise control of speed, the reduction of many forms of waste have won their way by the most practical and decisive demonstrations. The net result has been that the conditions under which work is done has been placed definitely under the control of the manager, instead of being left to chance. By and large, he can set these conditions where his best judgment indicates, and then maintain them there and have records to tell him that they have been maintained. This group probably shows most clearly the handwriting of engineers in the industry.

"SPEEDS have increased and with them, production per machine. The number of operatives per pound of product is materially reduced. These effect a reduction in floor space and village housing and ultimately in the cost of machinery to furnish a given output. A better and more uniform product is made. * * *

"We also possess today machines which in general have heavier construction, more accurate fits, more precision in operation, and other features to permit higher operating speeds. A feature of many redesigns has been the incorporation of antifriction bearings."

To particularize; the temperature of mill space in winter had formerly been left to the judgment of various foremen who regulated it by means of a hand valve. Busy with other duties, these men would disregard the heating system until uncomfortably hot, then would cut off steam entirely and leave it off until the room became too cold. These temperature fluctuations had a two-fold disadvantage. First, the operatives suffered in efficiency, particularly from overheating; second, processes were interfered with. Machine settings and oiling conditions were disarranged, but humidity conditions in particular were immediately upset. This can be readily appreciated on considering that with a temperature of 75 degrees F., and a relative humidity of 69 per cent, the air would contain .929 pounds of moisture per 1000 cubic feet. When the temperature dropped to 65 degrees F., substantially the same amount of moisture would be present, but the relative humidity would be 95 per cent. The humidifier controls would operate, but it would take some time for proper conditions to be re-established. Cotton processing is sensitive to humidity conditions, and these fluctuations would affect the operations adversely.

Automatic heat control has taken over this situation. The steam is turned off and on by a diaphragm valve operated by compressed air. This in turn is controlled by a pilot valve operated by a thermostat. Temperature is maintained within one degree and may be set at any desired point. The system pays its way in the savings at the coal pile of the heating plant, so the attendant advantages are obtained without appreciable cost. This forms an excellent example of detail improvement effected in auxiliary systems.

Unit heaters should be mentioned as one of the newer developments in the heating system. These are replacing pipe coil radiation to some extent, particularly in those departments where there is little lint or fly. Their fans create an air circulation which is particularly valuable where fan type humidifier heads are not installed.

Trade practice in textiles is to allow 8 per cent by weight of water in goods purchased. As the output of weave mills is usually sold to someone else for further processing, any less water in the stock means a direct loss to the mill. This water cannot be suddenly injected in the cloth room, but has to find its way into the cotton even before it reaches the loom. Moreover, the work in all processes needs just the right amount of humidity to make it run best. The importance of humidity is readily recognized. In this climate it is necessary to supply moisture at practically all times and mechanical systems have been in use for many years.

The atomizer system has been practically superseded by other types and at this time most of the installations use heads with motor operated fans, or the so-called "high duty head" systems. In certain mills, particularly in the weave sheds, central station systems have been installed where the air is collected at one point, heated, humidified, and piped in ducts to numerous outlets. This system, at least in theory, is ideal, but the extra cost has greatly reduced its field of application.

Humidifier controls have been refined and improved to a point where their operation is quite satisfactory. In addition to the beneficial effects on mill operation, present day humidifiers do considerable cooling in summer. It is not uncommon to have the mill interior seven degrees cooler than the outside atmosphere. With the central station system, an even greater cooling effect can be obtained. The efficiency of workers, particularly in southern cotton mills, where the summers are long and hot, is enhanced by the circulation of cooled air.

The most recent improvement made is the application of humidification to picker rooms. This department has long defied the engineers because of the great volume of air circulated by the pickers themselves. It is particularly interesting that the solution of this problem came from a mill manager, and not from a humidification engineer.

The problem of heating and humidification has by no means been completely solved. Experimental work

Automatic heat and humidity control, Improved systems of heating and humidifying, Individual drive, direct, chain and "V" belt, More efficient illuminating equipment.

How does your auxiliary equipment compare along these and other lines of improvement covered in this discussion?

◆ ◆

is now under way on small units which will both heat (or cool) and humidify. Such units are, in fact, on the market, but on account of the excessive cost and other disadvantages from a cotton mill standpoint, are not yet acceptable. This field appears to offer great possibilities for the future. Another effort which will offer remuneration is a study by the mills themselves of the precise degree of humidity which will give best results for a certain product, and a certain grade and staple of cotton. Adjustments are at present made principally by rule of thumb.

Improvements in Motor Drive.

The improvement in the control of the operating speed of the textile machinery is to be attributed largely to the work of the manufacturers of motor equipment. In the old days of mechanical transmission there was a rope race, a head shaft, and then a maze of countershafts, counterbelts, and machine belts. This has all been swept away. As far back as ten years ago individual motors had been applied to every textile machine. One of the last of these was the card, and the card room is still the one department in which shafting is commonly used.

There is an interesting history as to the application of individual motor drive to each of the textile machines, but it is sufficient to say that the difficulties have been surmounted and a satisfactory drive is now available for each. Commercial conditions dictate a decision as to the use of individual motors. Ordinarily pickers, looms, spoolers, warpers and spinning frames are so driven. In the preparatory processes it is usual to find one motor to a group of four frames. Even here there is no shafting, as the motor has a double faced pulley on each end driving direct to the machine pulley. As noted, the cards are commonly driven by line shaft, but the counter belts are eliminated, each shaft having a motor connected by chains or "V" belts. As a further waste eliminator, antifriction bearings are commonly used.

Motor drive has resulted in the elimination of belt slip, and the torsional whip in long shafts. This translates itself into a more even speed at the machine. The regularity of all machines permits an increased average speed throughout, resulting in an increased production. In changing over old mills from mechanical to electrical drive increases have ranged from 2 per cent to 12 per cent, depending on the inefficiency previously existing.

There is at present a strong tendency to build the motor into the machine as an integral part of it. This is entirely logical and may eventually result in all machinery being individually driven and in the motors being sold with the textile machinery. The problem of adjustable speed for spinning frames still waits for a solution after twenty years of effort. The frame speed should be increased as the bobbin fills up. At first thought it would seem simple to accomplish this, but it has not been done successfully. Experiments are being carried on with a mechanical device which shows some possibilities and tests have demonstrated a sufficient increase of production to make it commercially attractive if the device can be perfected.

Improved Artificial Lighting.

Artificial lighting has been increased greatly in intensity. It has been found that enhanced efficiency of operatives under better illumination makes it a good investment. Foot candle illumination has increased from an average of three to an average of five. In some departments, particularly weaving and cloth room, seven foot candles are frequently used. Apparently, the end has not been reached, but experiments need to be conducted in large areas and over a considerable period to obtain more quantitative data.

The ordinary system of lighting has been stand-

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"THERE is at present a strong tendency to build the motor into the machine as an integral part of it. This is entirely logical and may eventually result in all machinery being individually driven and in the motors being sold with the textile machinery. The problem of adjustable speed for spinning frames still waits for a solution after twenty years of effort. The frame speed should be increased as the bobbin fills up. Experiments are being carried on with a mechanical device which shows some possibilities, and tests have demonstrated a sufficient increase in production to make it commercially attractive if the device can be perfected."

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ardized for several years on the use of 150 or 200 watt incandescent lamps on drop cords with steel reflectors with the underside enameled.

Certain new type units are being put on the market using the mercury vapor light in combination with an incandescent filament and with a globe to permit the passage of ultra violet rays. There is also the possibility of introducing some inert gas into the mercury vapor tube to supply red rays so that colors under the light will be normal. These new departures may eventually bring sweeping changes into the illumination of textile mills.

Electricity is increasingly taking over the small duties around the mill. Plants must now frequently be wired for the supply of small portable tools, signal lights, calling systems, interplant telephones, etc., which adds to complexity of wiring for ordinary services to motors and lights.

Many minor improvements not mentioned have been made in manufacturing processes adding to the general trend toward better control of manufacturing conditions. As an example, there should be mentioned the better preparation of warps due to sizing control and slasher heat control, also the practice of slightly oiling the cotton stock in the opener room.

Publication of the remainder of this paper will be continued in our next issue. The concluding portion covers trends in building construction, village lay-out and design of houses, and includes a summary of the various methods of labor efficiency in use.

Farm Problem Stressed at Augusta

American association holds valuable convention; Sloan, Stone and Carl Williams speak; Cason Callaway heads organization for year.

AGAIN, the American Cotton Manufacturers Association has held a constructive convention. The accompanying story is a report of the meeting in Augusta last month. This time, the pertinent and pressing subject of the farm situation was considered in an exceptionally well-balanced and comprehensive program. The attendance was exceptionally large, and the representation at the different sessions, and close interest manifested, indicated a recognition of the importance of the occasion and of the organization as an integral part in the functioning of the southern textile industry. . . .

THE INTER-DEPENDENCE of the southern cotton manufacturer and the southern farmer formed the key-note of the 35th annual convention of the American Cotton Manufacturers Association, held at the Bon-Air-Vanderbilt Hotel in Augusta, Ga., on Friday and Saturday, April 24th and 25th. The program was designed to focus attention upon the inseparable relationship between the prosperity of the farmer and that of the manufacturer, and serious recognition of the plight of the farmer and of the importance of re-establishing his prosperity was impressed upon the manufacturers.

The thorough way in which this theme was developed and discussed, and the other phases of the convention, placed emphasis also upon the definitely essential place occupied by the Association in the industrial structure of the South.

B. E. Geer, of Greenville, the retiring president . . . . .

Cason J. Callaway, head of the Callaway manufacturing enterprises with headquarters at LaGrange, Ga., was elected president of the Association, succeeding Ben E. Geer, treasurer of the Judson Mills at Greenville. B. B. Gossett, of Charlotte, head of the Chadwick-Hoskins Mills, was made first vice-president, and Donald Comer, president of the Avondale Mills, Birmingham, Ala., was made second vice-president. W. M. McLaurine was re-elected secretary-treasurer, and Harry L. Williams, president, Swift Mfg. Co., Columbus, Ga., and Allan Little, agent, Dwight Mfg. Co., Alabama City, Ala., were added to the board of governors. W. D. Anderson, A. M. Fairley, Robert Lassiter, and George M. Wright, were re-elected to membership on the board.

President Geer's Address.

In focusing attention upon the farmer problem, at the beginning of the convention on Friday morning, President Geer, in his address as president, said in part:

"Many of us were reared on cotton farms. Even now our relatives, many of them, are cotton farmers. We know something of the vicissitudes of this great class of people who in the very time when our business has suffered most have themselves moved each succeeding year from bad to worse. We cannot and we must not ignore the cotton farmers both for their own sakes and in our own interest. For this reason, it has seemed fitting and proper that the program of this meeting should be built around the keynote: The southern cotton farmer, the producer of our raw material.

"It is to be questioned whether cotton manufacturing in the South can again reach a satisfactory and stable position until agriculture has been resuscitated, our farms have been re-populated, and many of the fundamental problems that are now facing agriculture have been solved. I cannot believe that our business as cotton manufacturers can permanently prosper unless this prosperity be shared with that great army of consumers who are at the same time the producers of our raw material.

"While I do not believe that the cotton manufacturing industry alone can solve the problems of the farmer in the Southern states, I do believe that we can materially aid in this direction and it is my honest judgment that the time has come when the cotton manufacturer of the South must seriously consider the question of how to better the condition of the cotton farmer of the South.

"Just what is the real condition of the cotton farmer? The answer is found in Bulletin No. 78 issued by the U. S. Department of Agriculture in September, 1929, giving the result of a study made by the Department in 1925 of the condition of farmers in a white farming area of the Piedmont section of the South. The experience of the year 1924 was made the basis of the study.

"After careful investigation, Gwinnett County, Ga., was chosen by the Department as a typical cotton county located in the heart of the Piedmont section. In this county there were 23 incorporated towns, the nearest 19 miles from Atlanta, Ga., and remotest 40 miles. The population according to the 1920 census was 30,327. Of this number 14 per cent were Negroes, one-tenth of one per cent foreign born, over 85 per cent native born whites. A careful and minute study was made of 288 farmer families. Ninety-four of these owned land, 122 were renters, and 72 croppers. The average number in the families studied was 5.02. Two hundred seventy-two of the families grew cotton which in 1924, according to the investigators, brought an

average price of 22.4 cents per pound. The average price of December spot cotton in New Orleans for that year was 25.5 cents per pound.

"The result of the investigation is briefly this: average receipts per family from all sources $591.00, expenditures per family for farm operations $167.00, leaving available for living expenses per family $424.00. Cash expended per family for living expenses averaged $291.00. This left available for savings or reductions of debts the meagre sum of $133.00. To those of us born and reared in the cotton belt this is not an exaggerated picture.

"In many respects the problem of the cotton manufacturer and of the cotton farmer is identical. We as cotton manufacturers have been wondering just what will be the outcome of the development of the textile industry in foreign countries, particularly in the Orient. Cotton manufacturing has grown with leaps and bounds in widely separated corners of the globe. The production of raw cotton has increased even more rapidly in foreign countries and the farmer may be just as disturbed about the future in this direction as we are. Both the growth and the manufacture of cotton in foreign countries is a matter of common concern and may prove to be a menace both to the farmer and to the cotton manufacturer.

B. B. Gossett, of Charlotte, who was made first vice-president . .

"Figures issued from Washington show that in the last six months England, our largest foreign customer, has reduced the consumption of American cotton more than half. If the wholesale destruction of the export market for American grown cotton progresses much farther, it may be that the consumption of American cotton in a few years shall be confined to American mills and total less than half of our normal production. This eventuality is certainly within the range of possibility. It is not difficult to see what such a change would mean to the 2,000,000 cotton farmers of the United States.

"Reference will be made later to taxes paid by Southern cotton mills. The deflation of the farms has brought about serious losses in farm property values and consequent heavy reductions in tax receipts from this source. More and more the burden of taxes is falling upon the shoulders of other classes to take care of the increasingly heavy demands to cover governmental expense. The establishment of the farmer of the South in prosperity is one way to secure for the cotton mills some relief from our present excessive tax burden."

Mr. Geer then emphasized another phase of the intimate relationship between the southern cotton manufacturer and the southern farmer, one which, he said, is apparently wholly ignored "by our versatile critics and too little regarded by ourselves." He referred to the southern cotton farmer and southern textile worker, and pointed out that the prostration of agriculture in the South reacts seriously upon our mill villages to which farmers, especially tenants and croppers, are migrating in ever-increasing numbers. "It is well known," he said, "that we get our cotton mill workers from the farms. The cotton mill workers compete only with people from the farms for jobs in the mills. So long as the family income on the farms and living conditions on the farms are below the family income and living conditions in the cotton mill villages, it will be difficult to make substantial progress in improving the economic and social conditions among the mill workers.

"Today the mill villages throughout the South all have a surplus of workers, people begging for work. The manufacturers have not invited this situation. They are under the pressure of it. So far as I can see, any effort to materially improve the condition of the mill workers throughout the Piedmont section of the South is bound to fail unless our plans and activities and sympathies include the thousands of tenant farmers and croppers whose economic situation is enough to break the heart of a nation. We may criticize the cotton mill executives, and shed oceans of tears over the plight of the mill workers, but until we really and seriously and honestly deal with that more unfortunate class out of which the cotton mill workers come, we shall not be doing anything constructive or effective to help either class."

In his address, Mr. Geer complimented highly the work and accomplishments of the Cotton-Textile Institute, declaring that "it is to be doubted whether our business could have survived these trying days without the guidance and support of the Institute." He referred to the outstanding accomplishments of the past Institute year—the elimination of women and minors from the night run of approximately four-fifths of the active spindles in this country; and the dissemination of dependable information based upon which the mills in different groups have adopted a schedule of operation aimed at balancing production and consumption. He declared that the greatest job of the Institute has been and is to transform individualists into co-operative beings, and that this is being accomplished in a notable manner, in response to a demand for more co-operation and collective action which has resulted from new economic and business conditions.

Mr. Geer also referred to a study of taxes in all of the principal textile states, made under the Association's auspices, and indicating that there has been a substantial reduction in the taxes paid per unit of machinery in New England textile mills, since 1920, and that in the southern states there has been a heavy increase in the tax burden. Copies of the complete study may be secured from Association headquarters.

In relinquishing the office of Association president, Mr. Geer offered one recommendation to the organization. He said: "One of the serious obstacles in the way of adoption, either through voluntary action or by means of desirable legislation, of needed changes affecting hours of labor and working conditions in the South is the wide variance in the laws governing the

operation of textile mills in the States embraced by our Association. I believe the time has come when a careful comparative study should be made of the laws affecting textile manufacture in the various southern states and that we should exert ourselves vigorously toward the adoption, either by voluntary action or through legislation, of sound and uniform operating practices in these states." He recommended the appointment of a committee to study this problem.

Farm and Mill Relief.

The second and concluding speaker of the Friday morning session was George A. Sloan, president of The Cotton-Textile Institute, who discussed "Farm and Mill Relief," including mutual interests, similar situations and solutions. Mr. Sloan said that, "If asked to describe in one word what is needed most today in both agriculture and industry the obvious answer would be stabilization.

"The whole world has been suffering from a lack of economic adjustment resulting in an accumulation of surplus commodities. Is it surprising that we hear leaders in all walks of life pleading for stabilization—stabilization of production whether grown or manufactured? Stabilization has indeed become the watchword of business men and economists.

"Applied to cotton manufacturing, any conception of stabilization includes an intelligent balancing of production with demand. Cotton farmers are vitally concerned with the successful application of this principle in cotton manufacturing. Cotton manufacturers are equally concerned that the farmers grow enough but not too much cotton.

Geo. A. Sloan, who spoke at the Friday morning session . .

"It is obvious that conditions of stability both in the cotton market and in the primary market for cotton goods will be of mutual benefit to cotton farmers and manufacturers. The stability of one makes for the stability of the other. Certainly the mills like to see stability in cotton prices because a falling market for cotton means a falling market and consequent hesitation and loss of business in respect to cotton goods.

"Unless well-recognized principles of economics have suddenly become inoperative, the most direct means of effecting such stabilization lies in a proper balance of production with demand. During recent months we have seen how this policy has brought improvement in the statistical position of some of the principal staple fabrics. This should result in more regular and gradually increased consumption of cotton, for the observance of the principle of balancing production with demand more than anything else creates confidence in the minds of buyers.

"With balanced production, hand-to-mouth buying becomes less acute, at least to the extent that it has become unreasonably accentuated, due to the fear which overproduction and surplus stocks raise in the minds of buyers. Removal of this fear, even though the process at times seems painfully slow, serves to encourage increased consumption of cotton goods. Greater regularity of mill operation in turn will induce regular purchases of cotton with an accompanying tendency toward stability of raw cotton prices.

"When the converters and other important distributors are buying cotton goods with some degree of regularity, they are thus making commitments for the sale of cotton goods and hence are putting the whole force of their selling organizations into the effort to move these goods; whereas if through instability they are not buying goods, or are buying only the minimum amounts, they are, in the nature of things, not pushing the performance of their sales organizations to anything like the same extent; and the result is that there is a loss in the movement of cotton goods to other fabrics or simply to entire non-action, and this will probably not be made up later; so there is an absolute net loss in amount of cotton and cotton goods consumed.

"Unhappily, this problem of overproduction has been as prevalent and destructive in cotton farming as in cotton manufacturing. The farmer and the manufacturer have been sitting in the same over-crowded boat. They have been suffering largely from a common habit of producing more than the consumer will take.

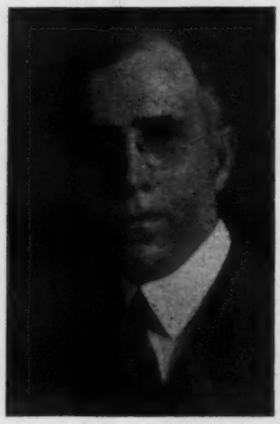
"Until recently the presence of excessive stocks in the hands of manufacturers, the long history of over-production in the industry, and the ever-present threat of further excessive production through indiscriminate night operation at the slightest excuse, contributed to a chronic lack of confidence on the part of buyers and financiers and discouragement throughout the industry. Such conditions influence buyers to narrow their purchases and inventory to such a degree as to stifle business, resulting in a sense of insecurity throughout the cotton trade. If distributors of cotton goods have little faith in the stability of the market, they naturally avoid carrying adequate stocks with the result that their shelves contain meager assortments from which the consumer can select. Consumption of raw cotton has unquestionably been limited by these factors.

"Remarkable progress has been made by the cotton mills during the past few months in putting their affairs in order, particularly in this major problem of better balancing production with demand. Stocks in many groups have been reduced to the lowest point recorded in the industry's statistics. The increase in sales for the first quarter of the year was in excess of the usual seasonal business but the urge to overproduce as heretofore experienced under similar conditions has this year been less conspicuous. It is my belief that this is due largely to the reduction in excessive hours of labor, the new tendency to concentrate operations on the day shift, and the determination to liquidate excessive stocks."

Mr. Sloan then referred to the efforts of the Institute looking to the correction of unsound methods of production and to the establishment of more stable

conditions. He referred to the distribution of statistics; an increasing cotton consciousness in the cotton-growing states; expanded apparel and industrial and commercial uses of cotton.

The Friday afternoon session was devoted to a round-table discussion, led by Vice-President B. B. Gossett, who expressed the keynote, in a discussion of "American Cotton and Its Future," by pointing out the distinct changes which have occurred within recent years affecting the position of American cotton in the world market. "Cotton is still king," he said, "but American cotton no longer wears the crown," showing that within a few years the proportion of American cotton to the total world supply has decreased from 70 per cent to about 50 per cent, stating that if this trend continued, there would be no export market for American cotton within five years.



Donald Comer, of Birmingham, who was made second vice-president . . . .

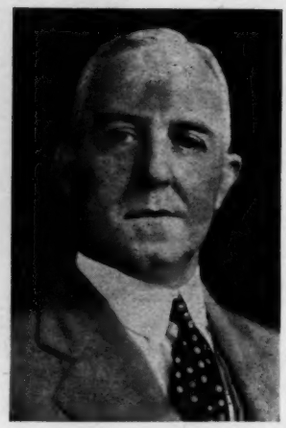
In this country itself, Mr. Gossett showed, the consumption would be 7,000,000 bales at the outside, and that one million farmers could produce this, whereas there are two million farmers engaged in cotton production; accordingly, "the cotton farmer cannot make a living." As a remedy, Mr. Gossett pointed to a well-balanced farm program, including diversification by growing more feedstuffs and foodstuffs, and a reduction in cotton acreage, with the use of better seed and more intensive cultivation, to improve the quality of the cotton, increase the yield per acre, and lower the cost of production.

South Carolina's Campaign for Better Cotton.

As the second speaker, Mr. Gossett called upon Dr. W. W. Long, dean of the agricultural department, Clemson College, S. C., to discuss "Why South Carolina Leads in the Production of Longer Staple Cotton." Dr. Long explained that in 1925, the character of the cotton grown in South Carolina had deteriorated to the extent that only 25 per cent of the cotton grown in the state was being used in the state's mills; that the mills were going to Texas and Oklahoma and other points for their raw material. He described interestingly the contest campaign conducted by his department to encourage an improved staple and character, and as the result of the five-year campaign, cited figures showing how the grade and staple of South Carolina cotton has been improved, and the percentage of 15/16 to 1 1/16-inch cotton has been increased from 40.8 per cent of the crop in the content in 1926 to 87.85 per cent in 1930. Also, he pointed out, the percentage of better length cotton in the entire South Carolina crop has consistently increased during the past several years, and that this state now leads all other southeastern cotton producing states by far in the percentage of the longer staple. He declared, however, that the goal has not been reached; "with increasing foreign competition in the shorter staples," he said, "and with the prospect for continued low prices, it is imperative to continue to improve the quality of cotton by using improved seed. and reduce the cost of production by the using of labor saving machinery and increased yield per acre."

Carl Williams, cotton member of the Federal Farm Board, who so ably addressed the convention at its 1930 meeting at Pinehurst, was the next speaker on the Friday afternoon program at Augusta. He discussed "The Outlook for American Cotton," and his remarks are printed separately in this issue on page 631.

In a brief round-table discussion following Mr. Williams' paper, W. D. Anderson, president of the Bibb Mfg. Co., Macon, Ga., declared "agriculture is the most tremendous problem confronting us today. The farmer and the manufacturer are partners." He complimented the Farm Board's vision, as expressed by Mr. Williams, in conceiving its job as being one of making a permanently successful and prosperous situation for the farmer. Mr. Anderson said he hoped to see acreage reduction, so that production cost would be reduced to the point where the farmer could make a profit even at a low price. He declared that farming, intelligently conducted, is a profitable business, and that improved seed selection and other scientific methods must be impressed upon farmers for their own prosperity. He pointed out that even during present times there are some farmers in every section who make money, while others are losing, and that more educational effort is necessary among the others as to how to get the most out of their land and efforts.



W. M. McLaurine, of Charlotte, re-elected secretary-treasurer . .

James C. Stone, chairman of the Federal Farm Board, spoke at the annual banquet of the association, held on Friday evening. Mr. Stone declared that the Farm Board proposes to continue its efforts to improve agricultural conditions in accordance with the Agricultural Marketing Act. He denied that the Board is inimical to the interests of any group, declaring that they are endeavoring to assist the farmer, for the prosperity of the nation depends upon the prosperity of agriculture. He outlined in detail the methods of co-operative associations for growers, stating that these methods are only fair and proper under existing economic conditions of distribution. The board, he said, will welcome and urges careful study of the

(Continued on page 669.)

The Outlook for American Cotton

A complete picture of the present domestic and foreign cotton situation which will interest every manufacturer.

By Carl Williams
Member, Federal Farm Board.

BECAUSE of his position in the industry, the accompanying discussion by Mr. Williams of the prospects for American cotton in world consumption, as presented at the Augusta meeting of the American Cotton Manufacturers Association, is of unusual interest. Because the prospects for American cotton so definitely affect the future of the American farmer, and because, as stressed at the meeting, the interests of the cotton manufacturer are inextricably associated with those of the farmer, Mr. Williams' clear and comprehensive analysis of the world cotton situation is presented here for the study of the textile manufacturer . . . .

THE DROP in the consumption of cotton goods has been brought about by five things: first, the drop in business activity; second, reduced earnings of labor in both city and country; third, smaller income from agriculture caused by extensive drought and the low price of farm products; fourth, by sharp and drastic falls in the prices of all raw materials, especially those from the tropics, such as rubber, coffee, and tin; and, fifth, the fall in the value of silver. Practically all of these factors, except the unusual drought last summer in this country, can be traced directly to the recession in business activity.

It is common economic knowledge that cotton consumption in the United States goes up and down with general industrial production. Both cotton consumption and industrial production are hard hit during any business depression, but cotton consumption goes down faster and farther. In the year 1921, after such a decline, cotton consumption started upward fully six months before the recovery in general business began, and increased at a more rapid rate than business. In the present depression cotton consumption started down in June, 1929, a month before the down-turn in business began and four months before the drastic break in industrial securities, and finally reached its lowest point in December, 1930. Although there has been some increase in cotton consumption since December, there has not been the sharp rise that occurred during the other great depression of 1920-21.

In Great Britain, the largest foreign consumer of American cotton, the consumption of cotton depends to a marked degree on the volume of export trade in yarns and cloth, which accounts for about 60 per cent of the total British production. There was a drop of more than 50 per cent in Britain's exports of piece goods from the end of the 1928-29 season to the beginning of this season, from 300,000,000 yards to about 150,000,000 yards, and during the last eight months exports have fluctuated at about the same low level. As a result, the consumption of all cotton in Great Britain declined about 37 per cent in the same period. This condition is directly chargeable, first, to the long-time influence of increased competition from Japan, India, and China; second, to the boycott in India against foreign-made goods; and, third, to the fall in price of raw materials from the tropics and the Orient.

In Central Europe cotton consumption reached a peak of 1,300,000 bales during the first half of the 1927-28 season, following the low price for American cotton in 1926. This consumption rate declined more than 20 per cent by the end of the 1928-29 season, and had fallen more than 30 per cent by the first half of the current cotton year. The present, world-wide business depression seems to have made its first appearance in these Central European countries, showing up in Germany as early as the fall of 1928 and in Poland in February, 1929.

Japan is the most important consumer of raw cotton in the Orient, and about two-fifths of the cotton Japan uses is grown in America. Hard times were not felt in Japan until several months later than in the United States, and the consumption of cotton there did not begin to decline until January, 1930. In fact, it increased through the 1928-29 season and the first half of the 1929-30 season, then declined 6 per cent in the second half of the 1929-30 season and 15 per cent in the first half of the current season.

In India and China the mill consumption of cotton has been actually increasing during this period when it was declining in Europe and the United States. The falling price of silver and of other exports, together with the boycott in India, cut down piece-goods imports and increased mill consumption within those two countries. India and China are good examples of what happens in the non-industrial countries during any world-wide business depression. Such times always bring low prices for raw materials. Raw materials furnish the bulk of exports from non-industrial countries. Their purchasing power abroad is thus reduced. Imports of manufactured goods are thus restricted, and the tendency is to manufacture raw materials at home instead of buying finished goods abroad. As a result of this situation, mill consumption of cotton in India and China increased in each half year for several years up to the beginning of the present season. During the first half of this season a decline of about 1 per cent is indicated for India and 2 per cent for China.

I have previously suggested that the demand for cotton is closely tied up with business activity. Unfortunately for American cotton growers, the countries hardest hit are those which normally use vast amounts of American cotton, such as the United States, Great Britain, and Germany; whereas the countries of the Orient, where Indian and Chinese cot-

tons find a normal outlet, have either felt the depression at a later time than elsewhere, as in Japan, or have actually been stimulated to greater mill activity by the drop in the price of raw materials which they export, as in India and China. France is the only large consumer of American cotton that has not suffered a severe decline in business activity during the last two years.

Bearing all these facts in mind, it is proper to call attention to the additional fact that exports of American cotton to China, Japan, India, and France during the first eight months of the current season have been greater than for the corresponding period last season, whereas exports to Great Britain and Germany have been sharply cut down. In other words, in countries whose people could afford to buy, American cotton is fully holding its own up to the present moment.

Two other points should be made concerning the way in which the business recession tended directly to increase consumption of foreign growths in Europe. First, the sharp drop in the price of all kinds of raw materials exported from the cotton-producing countries of South America, Africa, and the Orient forced these countries to sell their cotton in Europe at sacrifice prices in order to obtain cash and maintain national credit. A flood of cotton poured into England and the Continent, to be sold for what it would bring. Second, English and Continental spinners, themselves suffering from hard times and keen competition, turned to the cheapest cotton available, either Indian, Peruvian, Brazilian, or African growths, even though in many cases this resulted in a distinct lowering of their production standards. A shift in demand from the more costly cottons grown in the United States and Egypt to the cheaper cottons of India and China is to be expected during any bad business period, when mills are trying to cut costs and consumers are trying to save money.

If we analyze the total decline of about 2,000,000 bales in the consumption of American cotton that occurred in the 1929-30 season, we find that about one-half of it took place right here in the United States. It was due of course to the relative lack of a market for cotton goods rather than to any mysterious or menacing power on the part of the Federal Farm Board. Of the remaining 1,000,000 bales of the decline, approximately 900,000 of it took place in Great Britain, Central Europe, and Russia, and except in the case of Russia is directly caused by the inability or unwillingness, or both, of the peoples of the world to buy and pay for cotton goods. This decrease, however, is not a permanent thing. There are already several factors which point to increased use of American cotton at the expense of foreign cotton abroad during the 1931-32 season and later.

There will be a considerable increase in carry-over of American cotton next August, whereas the carry-over of foreign cotton, especially Indian, is likely to be reduced somewhat as a natural result of the well-maintained mill activity in the Orient. There will also be some reduction of production in foreign countries as a direct result of the low prevailing prices. In fact, it is entirely possible that the total supply of American cotton for the 1931-32 season will be a much larger proportion of the world supply than was the case this year and last.

This probability is important because of the fact that in past years the use of American cotton abroad, relative to all cotton consumed abroad, has followed very closely the supply of American cotton relative to the supply of all cotton in the world.

There seems to be a rather clear-cut cycle here. We have seen two tops and bottoms since the war. In the 1921-22 season the American supply was 63.5 per cent of the world supply, and the consumption of American cotton abroad was 48.4 per cent of the total consumption abroad. In the season of 1923-24 American cotton formed only 52.7 per cent of the total supply and only 38.6 per cent of the total foreign consumption. Following the tremendous crop of American cotton in 1926, the American supply rose to 63.7 per cent, and consumption of American cotton abroad rose to 48.6 per cent of the total foreign consumption. Both these percentages have been steadily declining since that time until in the 1929-30 season the American supply was only 53.5 per cent of the total supply, and American cotton consumed abroad formed only 38.8 per cent of the total consumption.

There is every indication that the end of the lowest point of the present cycle of consumption and supply has about been reached. As relative supply increases, the price differentials between American and foreign-grown cottons are certain to increasingly favor the consumption of American cotton abroad. These favorable differentials may be expected to continue to increase during the remainder of this season and through the next one.

There is no prospect whatever that the "threatened tragic disappearance" of American cotton from the world markets can or will take place. Exports of American cotton in February of this year were 31,000 bales more and in March were 127,000 bales more than in the same months a year ago. "Coals have been carried to Newcastle" this year by the actual export of more than 60,000 bales of American cotton to India. Exports to China have about doubled this season as compared to last season. In spite of the falling off of consumption of all cotton in Japan this year, American exports to that country have increased 8 per cent over last season to date, and in March were three and

MR. WILLIAMS says, "the actual outlook for American cotton is today brighter than it has been at any time in the last two years. The low point of restricted use of American cotton abroad has probably been reached and passed. Prospects are for an actual reduction in the cotton supply of foreign countries outside of Russia. Time is certain to bring definite recovery in business activity and industrial production in foreign countries. Time is equally certain to bring recovery in business activity and industrial production in this country.

"As these things happen they will mean increased demand for American cotton in this country and abroad, and that increased demand will in time be translated into terms of price to be paid to the cotton farmer himself and into a renewed period of prosperity for the textile industry." . . . .

one-half times as much as in March of 1930.

I referred a moment ago to a possible reduction in production of cotton in foreign countries next season. The greatest competitor of the American cotton grower is India. Indian acreage and production normally change in relation to the price of cotton almost, if not quite, as greatly as that of the United States. Cotton production in India reached a record peak in the 1925-26 season with 5,200,000 bales, shot down in 1926-27 to 4,200,000 bales as the result of low prices, jumped again to nearly 5,000,000 bales in 1927-28 along with the price recovery of that year, and has since declined until this year the latest official estimate is for a crop of about 4,000,000 bales of cotton. This is a decline of more than 20 per cent from the peak of 1925-26, and is the smallest crop since 1921. With cotton prices at present levels, some further reduction may be confidently expected next year.

"The Menace of Russia."

During the past five years the Egyptian cotton crop has averaged a little over 1,500,000 bales. There has been a definite upward trend of production in Egypt since about 1918. The latest estimate for this year is 1,700,000 bales, which is 2 per cent less than the crop of 1929-30. The Egyptians cut both acreage and production drastically, however, in 1921 and again in 1927, and if history repeats itself they will do the same thing again this year.

In Russia it is not likely that the low price of cotton will bring about any reduction in the crop of 1931. Both land and water for irrigation are apparently available for continued expansion under the Soviet plan for a number of years to come. The latest estimate of Russian production for the current season is 1,850,000 bales, and the Russian estimate of production next season is 2,200,000 bales.

It is reported that about 180,000 bales have been exported so far this season. The cotton is of good character bread-and-butter staple, and it is coming into rather direct competition with the better grades of American cotton in European markets and is offered at prices consistently under those asked by American growers.

It seems clear that Russia will tend to be an exporter of cotton for a number of years at least. This means the more or less permanent loss of a foreign market for about 300,000 bales of American cotton annually, plus a certain amount of competition in foreign markets as the result of Russian exports. It may be that as Russia becomes intensely industrialized she will be able to use all the cotton she grows, but there is no evidence of that yet.

The fifty-one other foreign countries which report cotton production all together produce a little over 2,000,000 bales. The trend of production in these countries is upward on the whole, has about doubled since 1910, and developed its greatest force as a result of the good cotton prices of the years 1922 to 1925. Reductions have always occurred following very low prices, and they may be counted on to happen again.

In the United States this year the acreage will be cut somewhat. It is too early to guess how much, but it is safe to say that it ought to be more. The real salvation of the Southern cotton farmer this year will depend more on his ability to raise his own food for the family and feed for the teams than on high prices for cotton.

To sum up the whole situation, therefore, it would appear that the actual outlook for American cotton is today brighter than it has been at any time in the last two years. The low point of restricted use of American cotton abroad has probably been reached and passed. Prospects are all for an actual reduction in the cotton supply of foreign countries outside of Russia. Time is certain to bring definite recovery in business activity and industrial production in foreign countries. Time is equally certain to bring recovery in business activity and industrial production in this country.

As these things happen they will mean increased demand for American cotton in this country and abroad, and that increased demand will in time be translated into terms of price to be paid to the cotton farmer himself and into a renewed period of prosperity for the textile industry.

Report on Grade and Staple of Cotton Crop of 1930.

THE fifth and last preliminary report on grade and staple of cotton ginned this season recently was released by the Bureau of Agricultural Economics, U. S. Department of Agriculture. This report is based on 13,730,629 bales of American upland cotton, reported by the Bureau of the Census March 20, 1931, for the crop of 1930. The Bureau also reports 23,254 bales of American-Egyptian cotton for 1930. According to this estimate, cotton ginned during the past season was higher in grade and somewhat different in staple than the cotton ginned during the 1929-30 season.

Of about 13,730,600 bales of American upland cotton ginned during the season, 87.1 per cent was estimated to be White in color, compared with 83.3 per cent ginned last year; 69.3 per cent was White, Middling and better, compared with 63.3 per cent last year; cotton other than White and Extra White was 9.3 per cent, compared with 12.5 per cent last year.

The estimates of staple length of upland cotton show 13.4 per cent shorter than 7/8-inch, compared with 20.1 per cent ginned last year; 76.4 per cent, 7/8 to 1 1/32-inch, inclusive, compared with 68.7 per cent; and 10.2 per cent 1 1/16-inch and over, compared with 11.2 per cent a year ago.

From the standpoint of tenderability in settlement of contracts made subject to Section 5 of the United States Cotton Futures Act, an analysis of the figures indicates a total of 11,621,000 bales, or 84.6 per cent tenderable, compared with 75.7 per cent tenderable in the case of cotton ginned last year. Of tenderable cotton, 10,221,100 bales, or 74.4 per cent of total upland, ranged in staple from 7/8 to 1 1/32-inch inclusive, and 1,400,000 bales were over 1 1/32-inch in staple. 2,109,500 bales, or 15.4 per cent of upland cotton were untenderable, compared with 24.3 per cent of last year's crop.

Improvements in Carding Reported at Discussion Meeting in Anderson

THE CARDING division of the Southern Textile Association, under Chairman Corn, usually has an interesting discussion meeting, and the one held at Anderson, S. C., which is reported here, was no exception. An extensive discussion on the question of opening and mixing cotton started the meeting, and other subjects covered were one-process picking, beats per inch, variation in laps, humidity in picker rooms, spraying oil on cotton, straight wire and metallic card clothing, card stripping, oiling spindles on fly frames, etc.

A thorough report of all of these discussions will be found in the accompanying article.

WITH AN ATTENDANCE that was rather conducive to lively discussion, the Carding Division of the Southern Textile Association held its 1931 discussion meeting at the Anderson County Courthouse, Anderson, S. C., on April 10th. The discussion was conducted by J. O. Corn, superintendent of the Pacific Mills Group at Columbia, S. C., who is president of the Association and chairman of the Carding Division.

Chairman Corn pointed out that no questionnaire had been sent to any of the members, but that if those present would only write down on the back of their registration card any questions they would like to ask that answers would be forthcoming. He said he would take up the questions submitted just as he happened to come to them.

Opening and Mixing.

The chairman pointed out that last year at Clemson they discussed their methods of opening, and asked if anyone had added anything new along that line, or if there was anything anyone would like to ask. Having no immediate response, he asked if all were satisfied with what they were doing, stating that he was not. He asked how many used 40 bales to a mix, and only one admitted doing so.

In reply to a question as to how many bales were mixed 30 years ago, Mr. Morris replied that he was a carder 30 years ago, and used five or six bales at a time. He said he just tumbled it in and let it go.

Chairman Corn said, "Let's get down a little closer. How about 20 years ago? How many of you were carders then?" One member replied that 20 years ago he mixed eight to ten bales at a time. "Probably sometimes we went up to 15, and I have worked at a mill where as many as 25 bales were mixed at a time. I think proper mixing is very important in the manufacturing of cotton goods."

T. N. Crocker, overseer of carding, Riverdale Mills, Enoree, S. C., was the next to reply. He stated that he had an opening room 20 years ago that enabled him to mix five bales at a time and that he found his mix very satisfactory. C. E. Gaillard, overseer of carding, Balfour Mills, Hendersonville, N. C., stated that at that time they mixed 10 bales at a time, even though they didn't run that much in a day. He said they only had a 3,000 spindle mill. Another member said, "Twenty years ago I was connected with a mill that opened 20 bales at a time, whereas today we open what we use tomorrow. We fed this in by hand, and didn't have any opener. We opened 20 bales and mixed it the best we could by hand, it being fed into a suction pipe."

Chairman Corn said he would like to hear from others as to what they were doing 20 years ago, as there was no question in his mind as to the importance of cotton mixing, and that he was a little surprised at the information that had been given. "I may be wrong, but the mills I was connected with 20 years ago did, I believe, have much larger mixes than have been reported."

Mr. Hamilton stated that he was of the same opinion, as the mill he worked for a good many years ago opened 55 bales at a time. "This was fed direct on a horizontal apron by hand before the hoppers first came out." Another member stated that he was connected with a plant that just had a good sized room, and they would bring the cotton in, open it up, throw it in a pile. He said this amounted to about 20 bales at a time, and that it was fed in by hand.

R. K. Eaton of Clemson College said that the mill he was connected with 20 years ago also opened about 20 bales at a time. He said one bale was put in and another fed on top of that, and that this was thrown into the hopper. "We had what might be termed a movable floor and the cotton was spread out on this, after which it was moved up to the hopper," it was explained by Mr. Eaton.

Another member replied, "The first question asked what we were doing 30 years ago, and your second question was in reference to what we did 20 years ago. Thirty years ago I was connected with a mill that opened twice a week, opening about 60 bales at a time. I don't remember just what we did 20 years ago, but it seems to me that we opened from

J. O. CORN, superintendent, Pacific Mills, Columbia, S. C., chairman of Carding Division, who led the discussion at Anderson.

80 to 90 bales. There were times when we were mixing as high as 125 bales a week."

"Is it more necessary that we have a larger mix today than we had 15 years ago, or should we have as large a mix?" was the next question asked by the chairman. To this Mr. Burgess replied, "Well, it is best to always have some of all kinds of cotton running. A good balance is what is desired at all times. If you are going to run some bad and some good, it is best to have it well mixed and blended. However, unless one has a suitable opening room where the cotton won't pick up moisture, it is best not to have too much on hand at one time. If the weather becomes extremely dry, too much stock opened up won't help you any. It hurts the working qualities of it. I have a very satisfactory opening room, so I do not have to worry about my cotton picking up moisture from the floor or walls. High density cotton should always be opened up as long before using as possible in order to avoid using violence in getting it through the picker. If a person had a suitable room, that is, a room where the weather would make no difference, it would be all right for him to have a thousand bales opened up."

W. P. Leister.

J. D. Whitmire.

"Do you think there is as much difference in the character of cotton today as there was 15 or 20 years ago?" the chairman asked.

"I think there is a greater difference, especially as to the amount of inferior stock, between what we today have and what we had 10 years ago."

When Chairman Corn asked for a show of hands from those who thought cotton sorrier today than it was 10 or 15 years ago, several indicated their belief that it is.

One member stated, "I don't think it necessary to have as much cotton laid down today as was formerly necessary due to the fact that we have cotton graders and they grade the cotton for character and staple. Also, we have a better opening system. We use better methods all the way through, too. As to the question just asked concerning cotton, I think the farmers are raising better cotton now than they did 10 or 15 years ago. That represents just one man's opinion, but it is what I believe."

"You have brought up one question that I wanted you to, and that is the stapling of cotton. Those of you who were running a card room 30 years ago didn't know that cotton had a staple," said Mr. Corn.

"You just asked if it is more necessary to open a large number of bales of cotton now than it was 20 years ago," Mr. Edwards stated. "Twenty years ago I remember having charge of two mills, both small. At that time we opened on one day the cotton that we figured using the next. We opened eight bales in one mill and nine in the other. The only reason I would say that it is necessary to open more than that is that we as carders and spinners and superintendents appear willing to take every kind of cotton raised, regardless of whether it is full of stalks, burrs and everything else. We claim that we have a cleaning process that remedies this. This brings up the question of larger mixes. I don't think we get any evener staple by mixing in large amounts, but the cotton appears cleaner. That's the only reason I can see for opening more bales."

Another member stated, "Twenty years ago we didn't have the cleaning processes in the carding and picking rooms that we have today. It is now possible to take the worst bale of cotton we handle and get a better quality from that same cotton than was possible to get 20 years ago. We have improved machinery to do our cleaning, so I do not see why it is necessary to open as much cotton now as we formerly did."

"I worked in a mill 20 years ago," said Robert Huskey, overseer of carding, Whitney Manufacturing Co., Whitney, S. C., "and we opened 60 bales. We were not mixing 60 bales, however. I believe that at that time we were mixing about four or five bales. I do not believe that the amount of cotton opened determines the amount that is being mixed. I was at a mill some time ago and the superintendent told me he was mixing 10 bales. I went into his opening room and the man there was putting on about 50 pounds from each bale, placing one layer on top of the other, so it appeared to me that he was really getting a mix of about two bales at a time."

Chairman Corn said, "One reason why I wanted this discussion brought out is there is a tendency on the part of a number of mills I know of to go back to the larger mix. I know of quite a few that have gone to considerable expense to arrange for a mix of that kind and I wanted to get the concensus of opinion to see how that was spreading. I wanted to find out from those here having the larger mixes just what results they were getting."

Robert Huskey pointed out that before they started actually mixing from 30 bales they did not get the proper evenness at the warper.

J. D. Whitmire said, "I have mixed from five to ten bales at a time, but since we have had some improvements in opening machinery I do not think it necessary to have as many bales in a mix as we used to have. Our cotton graders now help a lot. We used to get cotton in and wouldn't know what we had, but today we have men to staple and grade cotton, so we know what we are handling. Years ago I had to pick the cotton myself from the warehouse and often found as high as a dozen lots of cotton. In order to blend that cotton we tried to get a bale from each lot and put it in the mix, but our cotton graders have made that practice unnecessary today.

"We use four opening machines and open up 26 bales at a time. When that lot goes into the feeder room, we have 26 bales. We find this gives us a very good blend.

"I don't think it necessary to open up cotton like we used to. We used to open up 80 bales on Saturday and mix it. Then if a rain would come up during the time it was waiting to be worked,it would collect moisture and give us plenty of trouble. Better results will be obtained by opening up cotton in accordance with your opening machinery. A good blend can be obtained in this way. I do not think it at all necessary to open up 50 or 100 bales at a time in a small mill."

High Density Bales.

To the next question, How many are having trouble with high density bales in opening them up? asked by Chairman Corn, several replied that the only way to overcome this trouble was to use a thin layer off each bale, to cut the ties off and let it stand for a few days, and use compressed air to open it up.

R. H. Layton.

"We have used quite a bit of this tightly-pressed cotton," stated J. D. Whitmire, "and we have not had any trouble with it. We are pretty well equipped with openers. We use three hoppers in tandem, and our experience is little different with the compressed from that of the soft."

Mr. Jones, of Kings Mountain, said, "We have used compressed cotton altogether, and have for sometime. We open 15 bales at a time. We cut the bands and allow it to stand awhile in order to expand. We have a concrete floor that stays dry at all times. We take a thin slice from each bale, and do not have any trouble with it at any time. There have been times when we have had a little trouble with a lump within whip-rollers."

W. P. Leister, superintendent, Victor-Monaghan Company, Walhalla, S. C., said, "We use compressed cotton and do not experience any great amount of trouble. We open today what we are to use tomorrow. We also find it best to take just a little off of each bale. We have an air hose and we stick this in every bale to open it up as much as possible."

One-Process Picking.

"Well, we will now pass on to picking," Chairman Corn stated. "We have a number of questions here that we can take up on that. I have had a number of questions come in on one-process, also on beater speeds, beats per inch, and the old standby of oiling stock. We shall probably be able to take the afternoon on that. We will now take up one-process picking. We discussed that last year, and I believe we had some very favorable comments on it. How many of you have one-process picking and what is your experience on it?"

Robert Huskey replied, "We have something I have not seen in other mills. In our picker room we have only one beater, that being a Kirschner. We have two hoppers in tandem, and attempt to hold the second hopper to a certain fullness at all times. Our evenness is splendid. We find that our cleaning is not exactly what we would like to have, but we are putting in more opening machinery, so we hope we will overcome this difficulty."

"You don't run it through anything but the old finisher?" the chairman asked.

"That's right, and the Kirschner beater," Mr. Huskey replied.

Practically every one reporting on one-process picking stated that they liked it fine, and that they found they had less variation yard for yard than they had with two or three processes. It also appeared that the cleaning obtained was just as good. Mr. Corn indicated that the reports given this year on one-process picking were better than those given last year.

To a question asked by the chairman concerning split laps on one-process picking, several reported that they had not experienced any trouble along this line whatsoever.

The next question asked, by the chairman, was, "How do your beats per inch on your one-process compare with that on your other processes?" One member replied that he got 20 less on one-process through the opening machines. Mr. Edwards replied, "One of the gentlemen just speaking was referring to the new one-process picker. We have got our own make. We did not make any change on beats per inch. We have the same speed and everything. We didn't make any change, as everything is identically the same as it was with three processes."

W. R. Connelly.

Mr. Morris stated that he would like to ask some of those with one-process what was their greatest variation in their finished drawing.

Variation of Finished Drawing.

Mr. Crocker and another member both stated that they had found their variation to range between two and three grains. E. G. Waites said, "We have made about 500 tests of finished drawing, and the highest variation I have found on 70-grain slivers was around 2.8 grains. Since adopting the one-process I cut my variation down 1.2 grains." Mr. Jones stated that he had three processes, as well as one-process, and that he had found variation on the drawing to be about the same from each of the different processes.

In answer to a question asked by Mr. Layton, overseer of carding, Norris Cotton Mills, Cateechee, S. C., Mr. Corn explained that in speaking of variation from 2.8 to 3 grains that this meant from the lightest to the heaviest.

Chairman Corn next asked about the production on one-process as compared with three. Mr. Jones pointed out that he was a little faster, or in other words, got a greater production, on his one-process than on his three processes. Mr. Whitmire stated that he made a lap in about nine minutes where he used three processes, and one in five minutes where he used the one-process.

Mr. Underwood next asked, "If you have a three-

process picker with a beater speed of 1,000 beats per minute, say a Kirschner beater, and put in one-process picking with the same production to be obtained on both, would it be necessary to increase the beater speed on the one-process?" Mr. Whitmire pointed out that it would be necessary for him to increase his beater speed if he wanted to keep up to the standard. In answer to the question as to whether or not better cleaning could be obtained with a lower speed, one member replied negatively.

Humidity in Picker Rooms.

Chairman Corn next asked how many had humidity in their picker rooms, stating that he would not run a picker room without humidifiers in it. It is automatically controlled. One member asked him if he would have it if it were not automatically controlled. He answered "No." In answer to the question, "What percentage would be put into it?" he said. "Around 6½ per cent. I would not run it too high. It has been discussed for years and very few have taken to it. In fact, when we first asked for humidifiers in the picker room, many said it could be done because the air change was too bad. I am willing to admit that with drier stock it is possible to shake it and get a little more loose leaf out. My idea is that loose leaf does not hurt the stock, and will not hurt your cloth."

Robert Huskey.

W. R. Connelly, Pacific Mills, Columbia, S. C., said, "It seems to me that it is just as important to have humidifiers in the picker room as anywhere else in the mill, provided you do not get the percentage too high. A year or so ago we put in a good humidifying system, automatically controlled. We have put it in several of our mills down there. One mill has not changed gear in four years. We have not done quite that well, but we have not changed the crown gear but twice in a year. If you have your humidity over 58 per cent, which would give about seven per cent regain, you will not get as good cleaning as you can do if you will keep it at 58 percent or under. I believe that at that per cent you will find you will get just as good cleaning as if you had no humidity. We get just as good cleaning, and better and more even running work. If you don't keep it too high, I don't see how you can afford to be without it.

One member wanted to know how many used the Aldrich regain indicator, and whether or not they follow it as the hand goes up on the indicator. "I would like to find out," he stated, "Do they follow the hand as the indicator indicates? It goes from around 4 to 9½. A happy medium would be around 6½, but that scale on the indicator will register from 4 to around 9½." Mr. Sanders stated that they had an indicator and that they followed it very closely, pointing out that unless that is done one cannot expect to get results from it. He said, however, that his only varied from 5½ to 6½. One of the members pointed out that he would like for those giving their experience to tell where they keep their numbers and how often they have to change crown gears. Mr. Sanders added that he did not average changing crown gears once a month. C. E. Gaillard said that his indicator has never run down as low as four, but that it has run as high as ten. He said they went exactly according to the indicator, weighing their laps exactly as the hand shows on the indicator. In answer to a question, he said that at times during a change from a wet to a dry spell, they changed gears on their drawing as often as twice a week.

W. P. Leister said, "I am interested in what this gentleman over here said about changing gears once a year. We know that humidity has a considerable effect on our numbers. I would like to know if that gentleman uses the same character of cotton year in and year out? My experience has been that regardless of how well you control it, when a change is made in the character of cotton it changes your number. If there is any way around that, I surely would like to find out about it." Mr. Whitmire responded, "If your drawing is running light, as soon as you see it running light, you should heavy up your lap a quarter of a pound, and if that does not have the desired effect, make it more. Take care of that on the lap scales, as it is showing up in the drawing."

W. W. Cobb.

J. W. Godfrey, Gaffney Mfg. Co., Gaffney, S. C., said, "We do not have a humidifying system in the picker room, but we have a standard for our laps and we never come under our standard. We follow it up, and I believe that last week was the first time we have had to change gears in about six months."

Mr. Willis, of Clemson College, said, "Someone spoke of the character of the cotton. I have tested a number of different characters of cotton, and under the best possible controlling conditions I have found it to vary as much as two per cent regain. Two different varieties under absolutely the same conditions will vary that much. That means, if you are using a standard humidity, you will have changes, but if you are having an average humidity maintained, you will have very little gear changes. The secret of the whole thing is a standard automatic control."

"What variation is allowed on finished goods, 10, or 20 points?" asked Mr. Rogers. "Ten, five on each side," replied Mr. Corn. It appeared that very few stayed within these limits, however.

"Gentlemen," stated Chairman Corn, "I will give you a little of my personal experience concerning humidity and keeping numbers. It is a question, and it has been my experience that you cannot leave it to any instrument. I also believe it impossible to leave it to an automatically controlled picker room. Each will help a great deal, if you will allow them to, but it is necessary to go further back than that if you are to keep your numbers. You have got to know what kind of cotton you are running, and that is a job you have to watch. You should follow it through. I don't mean take a sample and watch that through.

It is a question of where you are unable to get your correct numbers, and a man cannot take any instrument in his picker room or an automatically controlled picker room and keep his numbers on a fly frame. He has got too much variation before he gets to them. I have gone as high as three years in a mill and never changed a crown gear, and kept my cloth satisfactory to the people."

Mr. Leister asked Mr. Corn what was the greatest variation he had in his cloth.

Chairman Corn replied, "For a day you might swing off eight or ten points, but that is the big trouble in keeping numbers. If you are ½ or ¾ of a number off and go down to the card room and slip on a crown gear, you have ruined yourself. Those variations will adjust themselves if you will give them time, and if you go ahead and change the gear to try to take care of it you are adding fire. If one knows he has kept up with the stock coming through, his finished drawing should indicate fairly well just how that stock is going to hold up. Allowance should be made for the effect of the stock change in coming through. If you have variation in humidity in the picker room, and make changes in the picker room according to the changes in the atmosphere, when it gets to the drawing any change there should be considered a stock change, and if you take care of that you ought to go along in pretty good shape without changing any more gears.

"It is a question of the carder knowing that if his sizings are a little heavy today that he has already taken care of that several days ago, and it is not necessary to do anything else to take care of it. If it were possible to pick out bales that had seven per cent and five per cent moisture in them and take an equal number of these bales in order to get an average six per cent, then you should have a condition that you could control, but I don't think that is yet practical in a mill. It would be ideal if a man could take a bone dry test of every bale of cotton that went into his mill, and could mix accordingly to the moisture content along with his grade and staple."

In answer to a question as to what he considered a reasonable variation, Chairman Corn stated from four to ten. "If there is a slight variation in the numbers, I would pay no attention to it. If my numbers were right last week, when that roving was made, and I knew they were right, and if you were spinning in as 30s and spun 28s, I would pay no attention to it. I think we make a big mistake in trying to keep the numbers too close."

"I think that one of the greatest difficulties that confront us as carders and manufacturers is in guessing or familiarizing ourselves with a proper method of ascertaining in advance the regain in our cotton," said F. L. Drake, overseer of carding, Pacific Mills, Columbia, S. C. "I have not changed a crown gear for the last five or six years. As the chairman knows, we have kept our cloth within the standard, within the allowed variation. I chart every process of my work except the picker room. I watch the curve on the numbers from day to day, and I am influenced by weather conditions. I watch the weather. I have a regular time for sizing each day, and I am not subject to change on my frames on account of variation in the spinning numbers at any time. I watch for the whole frame to show an inclination to lean to the heavy or light side before I am convinced that a change is necessary. Then I make it on the picker. If we as manufacturers, as carders, will study the keeping of numbers closer, it will help. I am satisfied that there is more real good to be derived along that particular line than from anything else that can be done at the present time in manufacturing."

Mr. Drake pointed out that they have a man who tests the humidity, and that they also have an automatically controlled system known as the carrier system, by which conditioned air is blown into the room.

Oil Spraying Cotton.

The next question to come up was concerning the use of oil spraying on cotton. T. N. Crocker was the first to report on this, saying, "We use about .2 of one per cent. I was very skeptical concerning the use of it in the beginning, and I am willing to confess that I don't think it helps in any way other than in keeping the room much cleaner. I didn't have a chance to install pumps for the oil system for three days, and during that time it got so dusty in the card room that it was next to impossible to stay there. If I were running low grade cotton, I certainly would use it all the time, for it will help the cleanliness of the room very much. It keeps down that floating dust, and I like it very much. I use it on 15/16-inch cotton."

"We have been using it about a year," replied Mr. Gaillard. "We put in .33 of one per cent, and use it on one-inch cotton. We lightened up one tooth when the cotton stock went through the card room. We also find the oil to be a good dust remover."

In answer to a question, Mr. Gaillard replied, "it does not affect your card clothing, and we get just as good cleaning. We are carding 110 pounds per day."

"We are carding 120 pounds a day," replied another member, "and we have been doing this for five and a half years with no ill effects."

"When we first put the oil system in," stated Mr. Edwards, "we tried to follow the recommendation of the people putting it in by using .2 of one per cent. We found this was too much for our stock, so we cut it down to about .1 of one per cent. We use 7/8-inch low grade stock, and card 70 pounds per day."

W. R. Connelly said, "I came up here to find out something about oil. We have found that it is good to get the experiences or other people. We had been running with oil for about a month when we ran into trouble. Another mill I know of just a short distance away ran into more trouble, but we want to keep it if we can. The mill is much cleaner all the way through. The spinning has not been hurt any at all, and our breaking strength has kept up.

"Some of the questions I wanted to ask have already been asked, but I would like to ask these: What percentage of oil do you use? What stock do

you use? Does the length of the stock affect the quality of your carding? If you are running one-inch stock, and you get a certain amount of bad work on your web, will you get more or less on 1 1-16-inch or 1⅛-inch cotton? What protection do you use on your cards? What about cleanliness? Do your cards load up, and are they hard to strip, and how does your web look?

"I will answer some of these questions from a rather limited experience. Our card room is much cleaner, and our spinning room is also cleaner than it was. Everybody in the mill likes the oil, everybody except the strippers. The cards are harder to strip. They load up faster, making it necessary for us to strip twice a day, or every five hours. Our web is getting very poor, and we are getting many more neps in it."

Too Much Oil Harmful.

Mr. Crocker pointed out that he believed Mr. Connelly's trouble was due to using too much oil, stating that he gets very good results using around .2 of one per cent and that he has no trouble whatsoever in stripping his cards. He said, however, that he used .4 of one per cent at one time and ran into quite a bit of trouble with stripping. Mr. Godfrey verified this by stating that they have been using oil for about three months and had not had any trouble with stripping. Mr. Edwards stated that they were using .1 of one per cent and getting very good results.

Asked for additional information, Mr. Edwards stated, "I was about the first to use oil on cotton, and at that particular time it was recommended to use .5 of one per cent. That was back when we had the little fan. We started off with .5 of one per cent and in about a week we were in plenty of trouble. We cut down to .3 of one per cent and later down to .2 of one per cent. We were not satisfied with the results we were getting, so we made an additional cut on the amount used; however, we were still not satisfied, so we took the oil out.

'We thought, though that there was a possibility of using it, so we later tried ¼ of 1/10th of one per cent, an amount so small you could hardly see it. We raised this until we got up to ½ of 1/10th of one per cent, and with this amount got wonderful results. In another mill we obtained very good results using .1 of one per cent, and in still another very good results using .2 of one per cent. My experience has been that oil is a great thing to use, and that it does not hurt your room, bleach, or anything else that I know of."

H. L. Jay, of Elberton Cotton Mills, Elberton, Ga., was not so favorably impressed with the use of oil. He said, "It will give you trouble on the cards. You will get a lot of messy work. It gives us a lot of trouble when we get a little too much, and it is very easy to tell when you are putting on too much. There is no question about it keeping down dust, and as far as breaking strength is concerned, I cannot see where it affects it at all."

Mr. Corn asked Mr. Buchanan, of Piedmont Mfg. Company, Piedmont, S. C., if he would buy the oil equipment if he had the money. He replied, "I would not buy the oil equipment today, if I had the money, because we are doing other work, and spending money for other things that we need more than that."

Robert Huskey, overseer of carding, Whitney Mfg. Co., said, "We have been using oil for a number of years. We threw it out twice, but went on it the last time two or three years ago. Some things have not been brought out here this morning that might prove helpful. If you have a way to get out the dust before the oil gets to it, the oil is much better without the dust. I have succeeded in getting a condenser in my opening room. Cotton will not clean as good after oil hits it as it did before, because oil won't come out, and it retains the dust.

"There is another thing about oil that I doubt whether or not you men have noticed, but I have noticed it in particular. I have trouble in roving being sent back from the spinning room with little lumps in it, and since putting in oil that trouble has almost been eliminated. The oil settles the lint and dirt, making the room cleaner, which prevents these things from dropping into the stock as it is in process. Having oil also proves a great help to the operatives, as they have much better working conditions."

Mr. Gaillard stated that saving a tooth of draft on the drawing, coupled with the removal of dust, was sufficient to cause him to desire oil. Mr. Edwards pointed out that he paid 15 cents a pound for cotton and 15 cents a pound for oil, so that in the end it was really an even swap.

"I am trying to get you men to express yourselves," said Chairman Corn. "We have been discussing oil for about five years, and we never have had but few to tell us of any advantages obtained by using oil other than that it is a dust-down. Some stated that they had trouble, while others have stated they experienced trouble of no kind. What is the experience of you men?"

One member stated, "There are certain grades of cotton that will stand more oil than others. I believe that eastern cotton requires more oil than other cotton. We have been trying to find a happy medium. Considered from the dust standpoint alone, we believe that oil is well worthwhile. After having used it for over a year, I surely would hate to do without it. We find it better on the clearer, as there is less fine lint flying around. It prevents fine lint from flying around over the room, both in the carding and spinning departments."

Chairman Corn stated that they had tried it out in two plants. "We first started it off on 1⅛-inch stock, and we ran into plenty of trouble. We cut the amount we were using down to .1 of one per cent, but still we were unable to card it. It was so neppy that it looked like osnaburg. The stock was not anything like as clean as it was before we put the oil in it. We had the amount of oil down as low as .1 of one per cent and never over .2 of one per cent."

W. W. Cobb, of Cateechee said, "Speaking of reducing fine lint or dust, is it desirable to retain that in your yarn? Will this give you good weaving? My idea of carding and picking is that it is necessary to get rid of the unevenness of staple in order to get a good yarn. Now is it best to put something in there

to retain dust, dirt and loose or short fibers?"

J. D. Whitmire stated that they had had the system in for several months on 15/16-inch cotton, and that they had made numerous tests to find out whether or not they were deriving any benefit from the oil other than the prevention of dust. He said they kept the dust down but found that their cloth was not as satisfactory. Chairman Corn asked him if he noticed any difference on his cards and he replied "No."

Two or three members stated that they were experiencing trouble with the cylinders loading up and giving neppy work on their cards during wet weather. They pointed out that the stock piled deep into the wire on the cylinder, and loaded it at the point before it comes off on the doffer. It was pointed out that this would give little neps that looked like insects.

At this time Walter C. Taylor, secretary of the Southern Textile Association, stated that by referring to the last two issues of the Book of Proceedings it would be possible to find a great deal of discussion concerning oil. He stated that the Arkwright's tests made and listed in these books were made by competent mill men and that the information that could be gathered by reading them would no doubt prove worthwhile.

This practically concluded the morning discussion, and the meeting was adjourned to the Calhoun Hotel where a Dutch luncheon was enjoyed.

Following the luncheon, the afternoon session was opened with an illustrated lecture by C. H. Randolph, development engineer of the Minnesota Mining & Manufacturing Company, on the proper grinding of card clothing.

Chairman Corn started the discussion off by asking whether or not there were any more questions for discussion pertaining to the use of oil.

Mr. Frye said he would like to give his experience with the use of oil. "I think what you are making and what you are making it out of has a lot to do with the effect that oil will have. We are using oil and I like it. I want to say right here that I am not an advance oil advertising agent either, as I don't care whether the salesmen ever sell another oil pump or not. So far as we have been able to tell oil does not affect us in the stripping of our cards. I don't think the sliver looks as good, and the web looks worse, but we have not found this to affect our spinning or weaving any. Our numbers are medium, none being above 27s or 28s. We also have an easy weave."

J. D. Whitmire said, "I find that if you will look at the toppings, you will find some of the dust goes in there. If anyone will bring me some of his toppings from both, I can tell the ones where oil was used. There is a considerable amount of dust in the toppings, as some of the dust goes in there. That's what makes the defects in the cloth.

When W. R. Connelly stated that he stripped his cards every five hours he was questioned by Mr. Jones, who wanted to know how many pounds he carded per day, what grade of cotton he was using, and whether or not it was sledded cotton. Mr. Connelly replied that he was carding 115 pounds in 10 hours and that he was using 1⅛-inch Western, Middling and Strict Low cotton. He said he thought most of the cotton was sledded cotton. Mr. Jones said that he found it necessary on 15/16-inch cotton to strip every three hours, and that he believed that Mr. Connelly would rid himself of some of the trouble he had been attributing to oil if he would strip more often.

Straight Wire and Metallic Card Clothing.

Chairman Corn next brought up the question of straight wire card clothing.

In answer to the chairman's question as to how he liked straight wire, E. G. Waits said, "We like it very much, and have had no trouble with it. We have six cards, carding about 21 pounds, and we are stripping only once a week, that is, doffers and cylinders, on the straight wire, where we strip three times a day on the crooked wire. Then too, I believe we are getting a better web on the straight wire."

Mr. Jones stated that they had one card with the straight wire and that they also stripped it once a week, but grind it every time they do the other cards, and that they like it fine.

Mr. Sanders said, "We have one card with straight wire that we have been running a little over a year. We only strip this card when we grind it. In setting the card up we set it a good deal closer than we do our cards that have knee wire. This gives us good results, but if we set it off as far as on our other wire, we do not get good results. I am also on 1⅛-inch stock."

Mr. Corn next asked for experiences with metallic clothing. Mr. Waits replied, "It is just about like straight wire. I don't believe there is much difference in it. We card about 18 pounds per hour on the metallic and strip it once every 55 hours. We have found that after stripping our sliver comes back to its normal weight much easier than when crooked wire is used. As to breaking strength, and so on, we do not find any difference."

"We have just one card on the metallic," said Mr. Sanders, "but I like it much better than I did the straight wire. We found that we were able to get the same weight sliver on the metallic using a one or two-tooth smaller draft gear. The metallic also gives us more even work than the straight wire. We only grind the flats. At times we strip once a week, and at other times we allow it to run longer than that. This depends upon the trash in the cotton."

Frequency of Card Stripping.

The next question that was taken up concerned frequency of stripping cards. Chairman Corn asked how many stripped twice a day, and several indicated they did this by raising their hands. Two or three stated that they stripped three times a day. Mr. Burgess said that where it is necessary to strip more than twice a day something must be wrong. He pointed out that where short staple cotton is used it clogs the cylinders very badly. He said they make 30s and 40s from fifty-fifty Strict Low and Strict

Middling. He said that where a good grade of cotton is used it is possible to slow down the flats and not take out quite so much.

'We strip three times a day," said one member. "I think the preference of the man and the class of cotton he is using have a lot to do with it. If you are using a good grade of cotton, then of course it is not necessary to strip three times a day. Mr. Burgess just said that a card that won't run five hours without stripping ought to be thrown out. I do not agree, for there is no doubt that the cleaner you keep your card cylinders the less neps you will have in your cloth. If you had a single cut off of your goods and a single cut of cloth from another mill, if you were keeping your cylinders clean and the other mill was not, you would surely see the difference in the cloth. The cleaner you keep your cylinders the more you are going to take out. The card grinding, the setting of the cards, and every other point about the cards should be given proper attention. If you are stripping every three or four hours, you find a less amount on the cylinder each time. This frequent stripping probably increases the waste, but in the meantime you might save it on your tops, and a cleaner yarn will be made. Try it out for a week and compare the cloth."

Slow Carding.

Chairman Corn next asked, "Does slow carding increase breaking strength of yarn?" Mr. Sanders replied, "I made a test on that one time. I slowed a card down to three turns per minute, and right beside it was a card making nine turns, and I didn't find the two speeds to make any difference in the breaking strength of the yarn made." Another member replied that they had some cards making eleven turns per minute, making 30s yarn, and that they cut the doffer speed down to 7½ turns per minute, and made 31s yarn and that the breaking strength of this yarn was practically the same as when a speed of eleven was maintained and 30s yarn made. Chairman Corn pointed out that if this were true, why would it not be advisable to have a doffer speed of 15 r.p.m. Mr. Burgess added that the slow speed gives cleaner work.

'What causes a card cylinder to blister?" was the next question asked. Mr. Burgess responded that it was due to the cylinder coming in contact with something that caused the clothing to become loose at that particular place. "Why does it come loose at that place?," Chairman Corn asked. Mr. Burgess said that it must be a defect in the fillet. Professor Eaton pointed out that it was probably due to the way the cylinder was clothed. "If the man drove the fillet up with a hammer, probably parts of the cylinder were crushed in. I have known of cases where in setting their machines just ahead of the spirals on the cylinder, they would drive the fillet up with a hammer instead of twisting it up. I am quite sure that blisters appear where they strike with a hamer. They strike every two and a half to three feet."

W. C. Norman said he thought the trouble was caused by the top layers of the clothing giving away and there being nothing at the bottom except glue. Mr. Jones said, "This might not answer the question, but a carder told me he went to a mill and clothed some cards, and that in taking the old clothing off he got a perfectly straight edge of steel and laid it across the cylinder and found high and low places. The machine builder then furnished him a grinder to grind the cylinders down, and after grinding them down perfectly smooth no more trouble was experienced."

Chairman Corn next asked how many had continuous strippers, and what they thought of them. Mr. Connelly replied that they had continuous strippers on two cards, and that they had a cleaner web on these cards at all times. Mr. Sanders wanted to know if the continuous strippers had a tendency to dull the wire. "Absolutely," said Mr. Connelly. "You can rub your hand over it, and feel no point to it at all. However, it makes good work." Chairman Corn said that he could verify Mr. Connelly's statement. One member wanted to know what Mr. Connelly meant by making good work, asking whether he followed it through, or whether he stopped at the sliver. Mr. Connelly replied that he had just paid particular attention to the sliver. This member then replied that he had followed the work through and that he had found it was not as clean in the end where continuous strippers were used. He said it was very easy to tell the difference in the yarn and cloth.

The next question asked was, "Does low speed on drawing increase breaking strength?" Chairman Corn asked how many were running with a speed of around 300 r.p.m., and about one-third of the members present raised their hands. The remaining two-thirds indicated that they were running speeds below 300 r.p.m. One member present stated that he was running with a speed of 400, using one-inch cotton, and getting a breaking strength of around 60 pounds. He was making 30s yarn.

Chairman Corn wanted to know if it were necessary to widen roll settings when speeds are reduced. Mr. Whitmire said he had not found it necessary.

Chairman Corn next asked how many had tried the new type of coiler. He explained that it was a coiler that allowed you to put considerably more in your can. It appeared that none had heard of this.

Oiling Spindles on Fly Frames.

"What methods do you use in oiling spindles on fly frames?" was the next question asked. "Do you oil from the top of the spindle down or do you oil at the top of the bolster?" Mr. Corn asked. Approximately ten indicated that they oiled from the bolster down, while about seven or eight stated they oil from the spindle down.

"All right, let's see which way is the best. Why is it we have two systems of oiling? Someone tell me why it is they oil from the top of the bolster, rather than the top of the spindle." Robert Huskey replied, "In oiling spindles from the top you get too much oil on the spindle and not enough on the bobbin gear. In oiling at the top of the bolster a certain amount goes on the spindle while the remainder goes down on the bobbin gear." W. P. Leister stated that he just oils the bobbin gear, not the spindle itself. Mr. Jones

stated that he started at the top due to the fact that he used just a medium oil. He said this light oil would run down and part of it would go to the bobbin gear. "We don't wipe any off at the top of the spindle, for, as we all know, if you don't oil the top of the spindle, eventually they will get tight. They need oil, even though they may not need as much as some of us put on." Several indicated that they just oiled their bolsters and wiped the top of the spindle.

T. N. Crocker stated that he oiled his spindles once a day. "I find," he said, "that oil is much cheaper than machinery. I do not say that it is absolutely necessary to oil every day, but at the same time I do think it is necessary to oil very often." Chairman Corn stated that he had seen frames that had run for eight years without a drop of oil in the bolsters and that they were running very good. He said he knew of several places that were not oiling the bolsters and that they did not have anything like the amount of trouble with oil getting on the roving that some have. A member next said, "I would like to know about some of this lint that you have been talking about getting rid of with oil. We get a lot of it and it accumulates on the frames in different places. I would like to know what method of cleaning some of you gentlemen use to get rid of this. How often do you pick your clearers, and what do you do when you clean on the doff, and so on?"

"We had the same trouble on a particular grade of work," said Mr. Sanders, "and to eliminate it we started in at the drawing, changing our clearers, both over and under clearers, and cut out all cleaning while the frames were running. At doffing time we wiped the steel plates, the carriage of the spindle, and other parts that we thought needed it. In other words, we gave the frame a good general cleaning every time we doffed. By doing this, I would say we eliminated approximately 75 per cent of the slubs, etc., that we were having. We exercised the same precaution throughout all of our departments."

Mr. Morris wanted to know how many oiled their spindle steps, and two members replied that they oiled theirs once a week.

In answer to the question concerning elimination of slugs, J. D. Whitmire replied, "We worked for a long time to try to get rid of our slugs. We commenced at the carding and drawing and picked our clearers as often as necessary, and we were careful to put our roving in a box. We blew off our cards, slubbers and intermediates at regular intervals. We tried everything we possibly could, but yet we have some all along. We oil our spindles at the top of the bolster, and we eliminate some that way." T. N. Crocker said, "We clean off everything all the way through, yet we have quite a few slugs. We have gangs to clean every day. We slow down every day and keep the ceilings nice and clean."

The chairman asked if anyone cleaned their flyers between doffs. T. N. Crocker said that he did not think it was a good idea, as he had tried it on work where he was making yarn for hospital gauze and had not found it practical. Mr. Sanders said, "I tried the same thing, and we found that our slugs increased rather than decreased. I found that picking off on the doff is the best method."

Chairman Corn next wanted to know how many were using cork rolls on fly frames, or anywhere else. Mr. Campbell said, "My experience with cork rolls is very satisfactory, but I am just using them on slubbers and intermediates at the present time."

"We have been using cork rolls for about two years," said Mr. Sanders, "and find them to be very satisfactory. I have noticed in experimenting with them that they will really draft better than the leather rolls. I put twist enough in the roving so it is possible to tell this, and I have found that the cork roll really drafted better than the leather roll."

"How many of you can say that your numbers do not vary more than three from day to day?" was the next question the chairman asked. Mr. Jones wanted to know what he meant by 'vary,' and Mr. Corn said, "Well, if you are to have 30s then you must hold your numbers from, say, 28s to 31s." It appeared that the large majority felt safe in saying that most of the time their numbers stayed within this range all right, but that there would be times when their variation would exceed this. Chairman Corn said, "Ours will probably run along for a period of two months and we will not get a variation of over two or two and one half numbers, then we will strike a spell during which we will get a variation of three or a little more. I consider three quite enough, but it happens, there are periods when we will run for three months and never get a variation of over two, weighing 12 bobbins a day. I think this would be a very good question for us to consider before our next meeting."

PUBLISHER'S STATEMENT

of the ownership, management, circulation, etc., required by the act of Congress of August 24, 1912, of COTTON, published monthly at Dalton, Ga., for April 1st, 1931.

State of Georgia, County of Fulton.

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared W. J. Rooke, who, having been duly sworn according to law, deposes and says that he is the Business Manager of COTTON, and that the following is to the best of his knowledge and belief, a true statement for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Editor, R. W. Philip, Atlanta, Ga.; Business Manager, W. J. Rooke, Atlanta, Ga.

2. That the owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; W. R. C. Smith, Atlanta, Ga.; W. S. Cushion, Cleveland, Ohio; O. A. Sharpless, Atlanta, Ga.; J. C. Martin, Atlanta, Ga.; H. H. Kelley, Willoughby, Ohio; W. J. Rooke, Atlanta, Ga.; T. W. McAllister, Atlanta, Ga.; P. D. Hammett, Chicago, Ill.; L. F. Gordon, Atlanta, Ga.; E. W. O'Brien, Atlanta, Ga.; E. L. Philpot, Atlanta, Ga.

3. That the known bondholders, mortgagees and other security holders, owning or holding 1 per cent or more of total amount of bonds, mortgages, or any other security holders are: None.

4. That the two paragraphs next above giving the names of the owners, stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appear upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs containing statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stock holders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bonafide owner and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

W. J. ROOKE, Bus. Mgr.

Sworn to and subscribed before me this 1st day of April, 1931.

E. L. PHILPOT, Notary Public.
My commission expires March 2, 1935.

Constructive Meeting Held in Atlanta

Officers of Cotton Manufacturers Association of Georgia. Left to right, T. M. Forbes, secretary; D. A. Jewell, Jr., retiring president; N. E. Elsas, new vice-president; and D. W. Anderson, new president.

CONSTRUCTIVE THOUGHT and reports which reflected useful activity of the organization marked the 31st annual meeting of the Cotton Manufacturers Association of Georgia, held at the Biltmore Hotel, Atlanta, Ga., on April 7th and 8th.

D.W. Anderson, manager of the Pacolet Mfg. Co., New Holland, Ga., was elected as president for the coming year, succeeding D. A. Jewell, Jr., vice-president of the Crystal Springs Bleachery Co., Chickamauga, Ga. Norman E. Elsas, secretary, Fulton Bag & Cotton Mills, Atlanta, Ga., was made first vice-president and Treasurer, and Theo. M. Forbes was re-elected secretary of the association.

The position of traffic manager emeritus was created, and C. W. Chears, who has served as traffic manager for about twenty years, was by resolution placed in this position. Plans were announced for re-organization of the traffic department of the association to operate under authority of a traffic committee to be named by the new president. John A. Miller, executive vice-president, Exposition Cotton Mills, Atlanta, was added to the board.

The first session of the convention was of an executive nature, held on Tuesday evening, April 7th. Wm. P. Jacobs, president of Jacobs and Co., Clinton, S. C., presented an instructive address on the subject of a publicity program for textile mills, based upon his activities with such a program in connection with the Cotton Manufacturers Association of South Carolina for about the past two years.

The most important piece of committee business reported was the summary given by W. D. Anderson, president, Bibb Manufacturing Co., Macon, Ga., as chairman of the joint traffic committee of Georgia and Alabama Mills in connection with recent activities concerning freight rates on cotton factory products from the Southeast. Mr. Anderson outlined clearly the history of freight rates applying to the mills' products, explaining how recent efforts had been made to increase these rates to important consuming centers, and how the joint committee had been working to secure a suspension of the proposed increases. It was virtually indicated that with continued support the mills would continue to enjoy rates which would permit competitive shipping costs with other sections.

Eugene R. Black, governor of the Federal Reserve Bank of Atlanta, made a most constructive and inspiring address in welcoming the association to Atlanta at the Wednesday morning session. Mr. Black stressed the point that neither the state, nor the South, nor the United States, could be considered as self-sufficient, but that a return of prosperity to any section must be accompanied by a return of business throughout the entire world. He urged greater confidence, less timidity in business, more courage, and a display of strong character.

D. A. Jewell, Jr., president of the association, presented his annual address, referring briefly to current conditions in the industry. He said in part:

No One to Blame But Ourselves.

"The past year has not been a pleasant one in any kind of business and very few in the manufacturing of cotton goods have found it profitable. Possibly most of us would rather forget it, if we could, but an analysis of the situation shows that we have no one but ourselves to blame for the greater part of our troubles.

"We have been thoroughly impressed with the necessity of balancing production with demand and I would like to again call your attention to President Swift's address of last year, wherein he said: 'Let's quote and hold for profitable prices and stop so much talking about prices that merely show cost.' We certainly cannot expect anyone to pay us more for goods than we ask and if we do not ask profitable prices and refuse to sell goods at prices that are not profitable, we have no one to blame but ourselves. I do not believe any of us have customers who want us to sell them goods at a loss, and there is nothing more distasteful to anyone than to buy at a price and be able to buy additional quantities at a lower price before they receive the first lot."

M.D. C. Crawford, associate editor of Daily News Record, delivered an interesting address on the history of cotton textiles. The meeting was adjourned with a luncheon and business session following on Wednesday.

Methods of Cleaning and Lubrication in Carding and Spinning Discussed

THIS is a report of the discussion on carding and spinning subjects conducted at the Raleigh meeting last month of the Eastern Carolina Division of the Southern Textile Association. Compressed air for cleaning, cleaning bobbins, oiling spindles on fly frames, the proper viscosity for oil for spindles, life of spinnnig rings, and other topics were covered in the discussions which were led by J. W. Cates and M. R. Vick.

D. F. Burns, of the Durham Hosiery Mills, was elected chairman of the division, and the next meeting will be held at Roanoke Rapids, N. C., in the fall

THE EASTERN CAROLINA DIVISION of the Southern Textile Association held its 11th semi-annual meeting at North Carolina State College in Raleigh, N. C., on Friday, April 17. The attendance was hardly up to the usual standing for this division, and it was hoped by those present that the main cause for the absentees was pressing business at their own plants.

T. W. Mullen, superintendent of Rosemary Mfg. Co., Rosemary, N. C., who is vice-chairman of the Eastern Carolina Division, presided as chairman of the meeting, as N. B. Hill, the chairman, was unable to attend.

Dr. E. C. Brooks, president of State College, gave the address of welcome, and during his very interesting talk touched lightly upon three very important subjects. These were: economical organization; modern personnel management; and balancing manufacturing with distribution. He also told of the desire of the college to eventually have a man that would devote most of his time to contacting the mills, thus enabling closer cooperation between the mills and the school.

In his response to Dr. Brook's talk, Walter C. Taylor, secretary of the Southern Textile Association, told of the work of the Arkwrights, and of the value the association would prove to the students after they decide to cast their lot in the textile industry. He said the organization prided itself on the self-sustaining and practical nature of its work.

The meeting was turned over to J. W. Cates, superintendent, Edenton Cotton Mills, Edenton, N. C., who had been chosen to lead the spinning discussion. He first called upon David Clark, who gave a short talk on the value of discussion meetings to the mill men. He told of how he could easily remember men who found great difficulty expressing themselves before a crowd a number of years ago, who at the present were getting up at the meetings now and expressing themselves very fluently.

Compressed Air for Cleaning.

Chairman Cates said he told Mr. Mullen just before the meeting that he hoped it would be very informal, and that everyone would feel free to take part in the discussion. "It will be recalled," he said, "that last October at our meeting in Durham we allowed the discussion of carding to consume most of the time, so this time we are going to start the discussion with spinning to be sure that we will be able to devote sufficient time to it. I think it will be a good plan to take up the discussion where we left off last meeting. At the close of the last meeting we were discussing the best methods of cleaning in the spinning room. You will remember that I said I thought compressed air was a curse to any mill, and I had my hand called rather severely. I am glad I did though, and I hope this morning that I will be able to say something that will draw you out. I would now like to hear from some of you as to your methods of cleaning. Have any of you tried out any of the suggestions that were offered at the last meeting, and if so what results have you obtained?"

G. M. Gurley was the first to respond, stating that they did have air and decided to cut it out and that since cutting it out had been able to obtain much better work. "We do not have near as many black spots and gouts in the yarn," he said.

D. F. Lanier, superintendent Oxford Cotton Mills, Oxford, N. C., next said, "we were using air at the time of the last meeting and we are using it now. We are running 8s to 12s. We have a large amount of fly and have found that air is just about necessary. I realize that where a person is on fine numbers it is not essential to use air for cleaning, but we have found it mighty hard to get along without it.

"We have two men that do all of our cleaning. These men come down and clean for about two hours after everything is shut down and for about an hour every morning before we start up. This enables them to give the machines a thorough cleaning and at the same time prevents a lot of lint and waste from getting into the work. Since adopting air we have found that the quality of our goods has improved considerably. We have eliminated a large number of gouts."

David Clark said that he believed those who had taken part in the discussion thus far and had referred to air were talking about nozzled air, or air that is used to blow the lint, etc., off the frames. "I was in a mill just recently," he said, "where they were spinning 120s yarn and using traveling air cleaners to do their cleaning and they were very well pleased with the results they were getting."

"I would like to ask Mr. Lanier if he uses air while his machines are running," asked M. R. Vick, of Rosemary Mfg. Co.

To this question, Clarence Cates, of Edenton (N. C.) Cotton Mills, said "I believe you will find that it is really better to blow off while you are running. If you attempt to blow off spinning frames while they are standing lint will gather more freely on the bands

and this excess lint on the bands will cause considerable trouble. If the machines are running there will be a tendency for the motion of the frames to keep the lint blown off the bands."

Mr. Lanier pointed out that the fact that Mr. Cates was on finer numbers than he was probably made it possible for his method to prove practical, but that he did not think it would work in his case. He said that if they also had the traveling system of air, that that might also make a difference.

Victor Lawson was the next to reply. He said "I worked for a mill about 10 years ago and we used 'traveling air' all right, but it was air in a hose and we traveled around from frame to frame with a nozzle in our hands blowing lint off the frames. I started working in this mill when I was very young, starting in as a sweeper, and my boss used to tell me something in regards to sweeping that I think could be very well applied to cleaning any frames. I went to him one time and asked him when was sweeping-up time. He told me that it was just about thirty minutes before it needed it. I believe the same thing holds true for air—we should use it just about thirty minutes before we need it."

Left, M. R. Vick, and, right, J. W. Cates, who led the carding and spinning discussions, respectively.

A. P. Richie, superintendent, Dixon Mills, Gastonia, N. C., said "we are on fine numbers, from 60s to 80s, and we blow off our frames while they are running. We have built a truck that we use for cleaning the ring rails, the whorls, and spindle bases of our spinning frames. We have found that this keeps lint accumulation on the machines down to such an extent that we do not suffer any ill effects from blowing off while we are running."

Mr. Richie answered Mr. Vick's question as to whether or not they blow off at the doff by telling him that they did. Asked to give a more complete description of the truck he had built for cleaning, he said "it is very similar to a doffing truck; that is, it is about that size. The truck has a long brush and a short one on it, and they are so arranged that they cannot touch the yarn. The top brush is shorter than the bottom brush. The bottom brush is about 24 inches in length. These brushes are palced on the trucks in such a manner that it is only necessary to run the trucks down the alleys rather close to the frames and the brushes will knock all the lint off the spindle bases and whorls." He said he had found this truck to be of much help to them.

"We use air," said Mr. Crouch, "and we have two mills that do not use air for cleaning, and we have found that we are getting considerably better work, so far as keeping gouts, slugs, etc., out of the yarn. We always stop the frame beyond the one we are blowing off."

Clarence Cates again brought up that he believed that a frame gathered more lint while it was stopped than it would when running, and that he believed that some of it would find its way in the work. When Mr. Vick appeared to be of a different opinion, Mr. Cates asked him point blank if he thought a frame would have more lint to accumulate on it while it was running. Mr. Vick told him that he did not think this, but that he did believe that whether or not it was advisable to blow machines off while they were running would depend almost entirely on what numbers were being run.

A. P. Richie said "I pay a man a pretty fair salary to do my cleaning, and we do not allow anyone else to touch the hose for cleaning purposes. He can blow waste down just as easily and as well as the average man can pick it off. It pays to have a man who is thoroughly competent to do your cleaning. Cleaning by air is much cheaper than mopping off. This man can blow off a frame while they are doffing a frame."

"That increases your doffing time approximately twice then, doesn't it?" inquired Clarence Cates. Mr. Richie said that it did, but that today it was a question, not of pounds, but of quality.

J. W. Cates said that at the last meeting someone had told M. R. Vick of a method they had for cleaning bobbins and that Mr. Vick went back home and rigged up a device consisting of a spindle, running about 1800 r.p.m., with clearer cloth on it for cleaning out the bobbins. He later tried just using ordinary waste for covering the spindle, and found this more satisfactory.

E. M. Holt, of Erwin Cotton Mills, said that they had a machine for cleaning bobbins, which was merely two revolving brushes and that a boy could stand at the machine and just stick on two bobbins at a time by ramming the bobbins on over the two brushes.

Cleaning Bobbins.

"We take quite a few precautions to obtain clean work," said Mr. Holt, "and we have found that it pays. When we doff our fly frames we lay up both rows of flyers and give the frames a good thorough cleaning."

Mr. Crouch said "I believe I was the originator of brushes for cleaning bobbins. Since adopting the system of cleaning out our bobbins we have found that we have reduced the black spots we were getting about 75 per cent. We have had 71 per cent less roving taken out of the creels and sent back than we had before cleaning out our bobbins."

M. R. Harden, of Erwin Cotton Mills, Durham, N. C., said they had been very much interested in a grease they had heard about for use on spindles, which was to take the place of oiling spindles.

Oiling Spindles on Fly Frames.

The chairman stated that this brought up the question he had been wanting to come up, that of oiling spindles on fly frames.

Mr. Macgregory stated that they had left oil off of the spindles on ten frames for a period of three months to see what the results would be, and that they were so well pleased with the work they obtained that they decided to leave the oil off indefinitely. "We raise the gear up and put oil under the gear twice a week,"

he said. "Since doing this we have found a big improvement in the cleanliness of our work. We do not find near as many oil spots as we formerly did."

M. R. Vick said that they quit oiling the spindles from the top sometime ago and that this keeps much oil off the bobbins. He said they had been able to cut down on their black work considerably.

Clarence Cates wanted to know if it did not take more time to raise the gears? "It just takes the same amount of time that it takes to put on two squirts, with the squirt oil can, which is necessary when oiling from the top of the bolster," said M. R. Vick.

C. M. Black said that he had just read an article in the April issue of COTTON entitled "Cleaning and Oiling Mill Machinery" and that in this article the writer told of how they were cutting a groove in the bobbin gears of roving frames so that grease could be used rather than oil. Mr. Black said he believed this was a good thing. The discussion in COTTON to which Mr. Black referred was as follows:

D. F. Lanier.

"There are some makes of machines where the bobbin gears cannot be lifted without removing the casing, due to the fact that the bobbin gear is larger than the hole in the casing. On these machines, we have worked out a system that has worked out splendidly. We take the bobbin gears off the frames and send them to the machine shop; and each one is put in a scroll chuck on the lathe and a grease channel turned on the inside about ⅜-inch wide and about ⅛-inch deep. These grooves are not 'V' shaped, but the walls are turned down square on each side. This groove is put directly behind the teeth of the gear on the inside, as this particular place has sufficient stock for turning out. When the grooves are turned out, they are filled with No. 2 grease for winter and No. 3 for summer.

"We find that these gears can be lubricated properly with grease, using it about every four months—not using oil. If this method of lubrication is practiced, then it is not necessary to squirt oil around the top of the bobbin collar so as to oil the bobbin gear at the bottom."

M. R. Harden stated that he heard sometime ago that one of the machinery manufacturers were getting out spindles that had reservoirs on them for grease, and that an alemite gun was to be used.

T. W. Mullen asked if it is best to discourage oiling of bolsters, and Mr. Harden replied to him by saying, "it was brought out at the last meeting in Durham that the bolster is not a bearing, therefore, no wearing takes place on it."

M. R. Vick said, "what we want is facts. This question as to whether any wear takes place or not could very easily be tested out by testing two spindles on the same frame, oiling one and leaving oil off the other. We should take a pair of calipers and get caliper measurements of both the inside and outside of the spindles at the beginning of the test and the same measurements at the end of the test. This would tell us whether any wear had taken place."

"Way back we used to just use a heavy oil and oil the tops of the spindles and let it run down," said Chairman Cates. "At that time we did not think of power, and I have since seen that the power consumption, according to the oil used, is more of an item than some would think."

The chairman next asked, "It is better not to oil spinning spindles?" It seemed that the majority who expressed themselves were not in favor of oiling spindles.

Proper Viscosity Oil to Use for Spinning Spindles.

"This next question is going to start something," said Chairman Cates. "What viscosity oil is most ideal for the lubrication of spinning spindles?" He asked Clarence Cates to read the following paper on the subject:

"It is the purpose in this paper to discuss the viscosity of spinning oils and as we have recently made several tests, supervised by an expert from one of the larger oil companies, we will try to outline the results derived from these tests.

T. W. Mullen.

"There are numerous defects in spinning which can be directly attributed to unsuitable viscosity of spinning oils, of which shaking spindles are the most costly. It will be useless for us to discuss all of these defects, but we will list a few for your consideration:

"Wavily worn rings; replacement of travelers; excessive power consumption; slack twisted yarn; end breakage; rebanding; replacement of bolsters.

"The cause of shaking spindles can be largely attributed to insufficient lubrication or improper viscosity of oil used. A shaking spindle is the direct cause of key wear on the bolster, as it will loosen the key and allow the bolster to have play in the base. When the key is worn the spindle will shake even after the spindle has been recently filled with oil.

"When we consider the power consumption per spindle it is generally conceded that the lighter oil is the most economical. We found in our tests that the curve of the power line on the graph would rise toward the heavier load as the viscosity was increased. The revolutions of the spindle cause the oil to rise and lubricate the top of the bolster, however, if an oil of too little viscosity is used the oil will rise beyond the base and seep out. This results in insufficient lubrication. If an oil of too heavy viscosity is used it will not rise high enough and will leave a part of the bolster bearing unoiled. This will allow the spindle to rust around the top and retard the spindle speed, resulting in greater power consumption and slack twisted yarn."

"Now I will give you my experience," said Mr. Cates. "In a test we recently made, we found by use of instruments that a variation of 25 points in viscosity of an oil used caused a difference of 2 watts of power per spindle consumed over a period of 10 hours."

Mr. Vick said that he would like to know just what

the term viscosity signified. He wanted to know the range of viscosities of spindle oils. The chairman pointed out that different spindle oils had a range in viscosities of from 40 to 100. J. O. Creech wanted to know if 40 was thick and 100 thin? The chairman said 40 was thin and that as the viscosity increased the oil became thicker.

Professor Grimshaw of State College, at this time said that immediately after the meeting he would be very glad to make a viscosity test for anyone who would be interested.

J. O. Creech, overseer of spinning, Selma Cotton Mills, Selma, N. C., said "we made a test on thin, thick and medium oils. We took one frame of 240 spindles and measured out a given amount of thin oil to keep the frame properly lubricated over a given length of time. We did the same thing with two other frames to test out the amounts of thick and medium oils required. This test was conducted on frames having spindle speeds of 9,300 r.p.m., and at the end of the test we found that we had used a pint less of medium oil than we had light oil and a quart less of heavy oil than we had light oil."

J. O. Creech. C. C. Cates. C. M. Black.

"We did not get as good results using light oil," said Mr. Cates, "but we found that using this oil gave us a right nice saving in power consumed."

D. F. Lanier said "I think the size of the spindle is the determining factor as to what viscosity oil should be used. We will have to figure this out according to local conditions. Oil that will suit one man might not suit another, and oil used for spinning spindles will not be suitable for twister spindles.

C. C. Cates replied that they use the same oil for their twister spindles that they use for their spinning spindles. He said they had found light oil to give very good results on their spinning spindles, so they tried it on their twister spindles and got good results there also. He said they could get by all right using a heavier and cheaper oil than they were using, but that he believed the saving that was realized in power offset the additional cost of the oil.

"We buy a light spindle oil, and a good one, not a cheap oil," said A. P. Richie. "We have 14,000 spindles running 10,500 r.p.m. and we oil every 10 days. One grade of oil will suit one person and some other another. I have found that it is far better to buy a good oil and a light oil for spinning frame spindles. On a tape drive I greatly prefer a light spindle oil. I am sure that the supply bill in the end will be lower if such an oil is used. There are several good oils, and the kind of oil to use depends upon the spindle speed and size of ring."

Mr. Gillam stated that he was also of the opinion that a light oil uses less power than a heavy one, and that he thought the weight of the spindle had a lot to do with the oil to use.

E. M. Holt next told of their findings concerning the use of oil. "We tried out an oil that the manufacturer termed grade B, which had a viscosity of 65 to 70, and we found this oil to cause us to have a large number of stuck spindles and soft yarn. We changed to oil with a viscosity of 54 and this gave us much better results.

"We had the manufacturers to make tests for us where we were using a rather expensive oil and another that was not so expensive. The tests showed that less power was consumed when the higher grade oil was used, but that it was really a saving for us to use the less expensive oil," said Mr. Holt in reporting the results of their tests.

When asked by M. R. Vick what viscosity oil he used, Chairman Cates replied, "We use an oil with a viscosity of 75. If you do not run tests for more than a day it is very easy to fool yourself. We ran rather extensive tests in an effort to find out the best oil for us to use. They showed me that it is a saving for us to use an oil with a viscosity of 55 rather than 77, but there is a question in my mind as to whether or not this will be the best practice a year from now."

Mr. Vick wanted to know if heavy oil would contain any more sediment. Mr. Holt stated that they use a fairly heavy oil and that they have two vacuum pumps with which they blow out the oil basins twice a year, and that this kept their oil very clean.

Spinning Rings.

Chairman Cates said that after having a discussion of rings at the last meeting he decided he would write one of the ring manufacturers for some information. At this point he read the letter he received from the manufacturer. The letter read:

"In answer to your question concerning the proper care of spinning rings, we beg to recommend to your attention the following facts:

"First and most important as far as the life of a spinning ring is concerned is to see that the traveler is not allowed to become worn out, inasmuch as a worn traveler has sharp edges, which when working on the surface of a spinning ring immediately scratches, gouges it, and eventually ruins the ring by making it wavy.

"In many instances mill superintendents are known to have their travelers changed at regular intervals, regardless of whether or not said travelers have received their maximum wear. In this way you will find the life of a spinning ring is prolonged greatly over that of rings running under other conditions.

"Secondly, it is necessary, of course, to keep the rings clean. Although there is little possibility of their rusting it is a good idea to make an occasional inspection covering this possibility. Of course if the spinning ring starts to get wavy and worn it is best to throw the ring out entirely and replace it with a new one."

A. P. Richie stated that they had had experience with worn rings and had found that spindles not be-

ing plumbed was one of the principal causes. He was of the opinion that turning rings over did not add much to the life of the rings. "I have tried that by polishing them and turning them over. If I were putting in new equipment I would put in rings polished only on one side. When rings are turned over the travelers will not correspond to the turned over portion of the ring."

Mr. Lanier next asked what should be considered the life of a ring under normal conditions. Mr. Cates said it would depend upon the counts, size of ring, and the speed of the spindles. One member replied that he had received good service out of rings over a period of 22 years. Mr. Garner, of Rosemary Mfg. Co., said he thought double flange rings on warp yarn should last for about 12 years.

This practically concluded the morning discussion, so the meeting was adjourned to allow the members to do a little re-fueling for the afternoon session.

M. R. Vick conducted the discussion during the afternoon, which was devoted to carding. Mr. Vick said:

Picking Clearers.

"In continuing from the discussion of the last meeting in Durham on cleaning, it will be recalled that quite a few of us were having trouble with gouts. I have never known anyone to be running speeders and slubbers that didn't have this trouble. On the clearer boards of speeders and slubbers there is a space between the iron and wooden boards and lint will accumulate in this space. When the operatives pick these clearers at times they shake the boards and the accumulation on the boards gets into the curved part of the cover, and this later finds its way into the stock and causes gouts.

"We also find that another thing that will give us bad work at times is having the sliver cans dragged across the floor with small holes in the bottom of the cans. By making a special drive to eliminate bad work we have been able to cut down our bad work 75 per cent."

C. M. Black said that every now and then they have rather long strings to accumulate on clearer board flannels and that these go through in the work.

J. W. Cates asked how often spinning clearers should be changed. He wanted to know when a clearer is worn. Mr. Vick said that they had been able to add considerable life to their clearers by using a piece of card clothing on them every now and then. Continuing he said "I think a drawing frame clearer should be changed more often, as they receive more severe treatment. Has anyone made a test on this?"

C. M. Black said "I do not think there is any set rule for this. I believe it is necessary to use your own judgment. On both speeders and spinning frames we change when the clearer cloth becomes slick." Mr. Vick added that when the clearers start turning waste loose they should be changed. When asked by Mr. Holt whether scrubbing the clearers with card clothing added life to them, Chairman Vick said that it would cause them to hold longer.

J. R. Wright, of Durham, next brought up the question as to which nap would give best service, a long or short one? He wanted to know if the long nap would cause eyebrows. The chairman stated that he would like for someone to make a test on this, for he knew that everyone was troubled with eyebrows. "I have had trouble with eyebrows," he said, "but I had attributed it to short staple cotton."

Clarence Cates wanted to know if anyone had tried colored cloth for clearer cloth? He said that he had thought that by having the cloth a delicate shade of pink it might be possible to get them picked cleaner.

Stripping Cards.

J. W. Cates next asked if carders stripped regularly and how they handled putting up the slivers after stripping? The chairman asked if anyone had made any tests to determine how long they should wait before putting up the slivers? He pointed out that it was necessary to wait longer on fine numbers. One member replied that he thought the card just stripped should be allowed to run during the time the next card was being stripped. J. W. Cates also agreed that this was the proper thing to do, and that he thought it a good idea to alternate in stripping the cards so that when the stock reached the drawing frames the cans would be mixed and the variation more or less evened up.

Mr. Vick said it seemed to him that would depend on how the drawing frames were creeled—whether they were creeled as they ran out or all the creeling done at one time. A member asked which was the best method of creeling. Mr. Vick said he thought that depended upon the numbers being made, stating that he would rather creel as they run out. Mr. Cates said he thought it best to creel one can at a time, for there was bound to be some stretch on the sliver from the cans that were on the back row from the frames, and that by alternating the creeling it would help to take care of the stretch.

E. M. Holt said they had found it almost impossible to make a drawing frame hand put up an end as he should. He said that they had 60 drawing frames and they have their frames creeled so that one half of the cans run out at the same time.

D. F. Lanier said, "I ran for many years filling my creels as the cans ran out. Two or three years ago we decided to cut out our intermediate lappers and one process of drawing. After doing this we found that we were having trouble with a lot of variation. We went back to our drawing and started doing all of our creeling at one time, and we have found that this enabled us to get less variation in our counts and smoother work. We give our drawing frames a good cleaning when they run out. We also found that alternating in stripping helped us. We have one process of drawing."

Keeping Numbers.

"What is the best practical system for keeping numbers?" was the next question asked. Mr. Gurley said that they had found that by keeping close check on their laps and allowing only ¼ pound variation either way helps them in keeping their numbers. Also by weighing from their drawing and speeders two or

(Continued on page 669.)

CURRENT TOPICS

Talk of the Month

DISTINCT DIVISIONS in the cotton industry made it unavoidable that a relapse of some extent should follow the unusual movement of goods that marked the first part of the year. The inventory position at the end of 1930 among consumers of all kinds of cotton goods no doubt was at a low ebb all around. But whereas the consumption of goods for clothing, household uses, etc., was a matter dependent solely upon individual consumers for recovery of demand, the constructions which go into industrial uses naturally had to wait for other lines of activity to be restored. The fact that industry of other kinds entered the second quarter of the year still in a dubious position, as broadly reflected in the stock markets, naturally had a bearish effect upon cotton and goods, especially as the trade hardly had time to weigh the retail business following upon the big turn-over the first quarter in the active lines.

It remains now to study the prospects of the coming months for signs of normal or, as generally hoped, less than normal seasonal decline through the middle of the year. Along with such study, it is encouraging to find the industry giving careful attention to matters of continued regulation of production, careful and reasonable pricing of goods, and costs. Two of these matters were taken up recently by a group of southern mill executives at a meeting in Charlotte, N. C.; pricing of goods and costs of manufacture. In this action, the industry is being constructively advised by the Cotton-Textile Institute along lines which are occupying the minds of management in various kinds of manufacture. The favorable reception to such advice is a healthy augury.

Other industries have developed special cost systems which have been made available to individual units through national organizations and it is a promising circumstance that many mills have taken advantage of the Institute's offer to install adequate cost methods. This offer provoked very favorable comment among the carded-yarn mill executives at Charlotte. The principle of making sales based on replacement as a sound merchandising proposition was recommended and it was also noted that producing only in accordance with consumer requirements had already this year been shown successful.

Conditions following the first 1931 rush of orders were such as to have promoted disastrous over-production as of yore, under the old practice of cotton manufacturers. The hesitation after this rush demonstrated quickly the need of caution for measuring the course of business after the initial big movement for replenishment of starved inventories. "Not long ago an avalanche of orders such as those reported during January and February," said the bulletin of The Association of Cotton Textile Merchants of New York early in April, "would have sent production skyrocketing. However, an analysis of recent statistics reveals a firm resolve on the part of producers to bring about permanent equalization of output with demand in spite of prevailing optimism."

Inviting New Buyer Attitude.

Such measures for practical operation of mills, both as to volume of production and basis of price, may be conducive toward a new attitude among buyers as well as beneficial to employers and employees of mills. It is high time that something be done to relieve the hand-to-mouth policy that has obtained for many years and one of the principal supports of that buying method has been the suicidal over-production. So long as that prevailed, the only inducement that the manufacturer could offer for orders ahead in volume was uneconomic price-cutting. Hand in hand with well regulated production, on the other hand, may readily be set well governed price making.

Given a fair measure of stability, with the assurance that the price for goods will be governed by costs and not by urgency for orders above all things, the buyer will have no object in waiting to cover requirements which are reasonably defined. Indeed, he will find it inimical to his best interests to procrastinate for by so doing he would court the danger of facing a shortage of supplies at a critical moment and of thereby jeopardizing his own business. In the new order of things, it will be an advantage mutually for the buyer of goods and the manufacturer to get together on business which is fairly definitely in sight, but the attitude of the buyer will be always determined by the consistency of the producer in his practices.

Eliminating the Need for Price-Cutting

IN ANNOUNCING new prices during March for the second quarter of the year for steel forms, the manufacturers thereof were figured to be moving to stimulate orders at the old and lower basis, though this was a profitless level. The reasoning was that the managements recognized an obligation to the thousands of workers in the steel plants and they were seeking business for occupation of the machinery at whatever cost need be. We have stressed in these columns the joint obligation of employers everywhere to safeguard employees in thier work and today the world is facing a social-economic problem in place of the condition wherein the worker was classed as an impersonal element of industry. But that does not necessarily involve profitless operation to help the worker.

On the contrary, we have a present example that waht might appear to be an idealistic basis of operation will work for stabilization and profit even through such a depression as that recently encountered. And at the same time, it affords the utmost se-

curity for the workers. The Procter and Gamble Company, makers of Ivory Soap, guarantees 48 weeks' work in a year to every employee by operating on the basis of probable sales for a year ahead and spreading its operations evenly over periods of rush demand and inactive buying to accord therewith. The astounding results from such a course are that the company in the commonly disastrous last six months of 1930 had the best half-year in its history.

Now it may be far-fetched to suggest that regulation of output and sound pricing will eliminate the cycles in the cotton industry. Colonel William Cooper Procter, speaking in connection with his company's achievement, does not say what other industries can do in the same direction, but he expresses the belief that most of them are capable of much greater regularity. "The will to stabilize industry is half the battle," he does say, and "the ability to stabilize industry will come through study." Admitting that textiles are not standard like Ivory Soap, we turn to the wool industry and find something suggestive of possible new practices in the report that the mills are working to ascertain from buyers an idea of the trend of demand for half a year ahead, so that they may "equalize" production over such a period.

In line with this general proposition, something of value may be offered the cotton manufacturer from some recent remarks on inventory building by Howard Coonley, head of the Walworth Company, manufacturer of hardware and tools. In substance, his policy is to build inventory during the time preceding the peak demand and have it ready for the large orders; then let it run down as consumption grows, so that it will be low again as the ebb of buying arrives. This is perhaps a mere difference in the way of stating the proposition of stabilizing operation, but it puts the case graphically in a new light. He adds: "It is our inventory, therefore, and not our production, that fluctuates substantially."

Taking Buyers' Club Away

WHEN THE BUYERS of textiles came into the market the first of this year to begin replenishment of stocks, they found mill inventories in an unusually sound condition, for the end of a depression, but it was at the expense of heavy curtailment in contrast with the foregoing cases. The industry has, however, made one move to take away from the buyer the club he has held over sellers' heads as a way to beat down prices. The problem now is to keep the club away from the buyer by studying ways and means of equalizing production over long periods and avoiding with other manufacturers the piling up of inventories at the worst possible time: the end of a heavy with the buyer, in gauging the season, or it may do buying wave. The industry may act in co-operation its own estimating, but at any rate it must study the problem if endeavoring to help general business offset the cycles.

Like night operation, another evil which puts a club in the hand of the buyer is the practice of selling some production at a loss to reduce overhead on otherwise idle machinery and thereby to augment profits on other output which can be sold at reasonable returns. Like night operation, too, as indicated by Sydney P. Munroe, manager of the cost section of the Insitute, this practice might be profitable if one mill had an exclusive privilege with it. However, one mill does this under-cost business on another mill's specialty and vice versa. Where they both come off with the shrewd buyer, under such circumstances, needs no elaboration.

Straws of the Recovery

AMONG THE notable developments early in this second quarter of the year was the report that a cargo of cotton valued at $500,000 had been received in Fall River, Mass. The cotton industry of that once leading textile center has been sorely stricken for several years and this cargo, the largest single allotment ever unloaded in the city, may be the augury of a turning point in the industry there as well as at large. In reporting recently on the growing cotton-mindedness of the country, George A. Sloan, president of the Cotton-Textile Institute, cited how the consumer public of the South has turned emphatically to cotton as a significant development in relation to increased consumption of the South's staple.

Combined style and low cost are working their salutary way with cotton around the world. Mr. Sloan reported also that a variety of display material had been forwarded upon request to the Spanish Federation of Master Cotton Spinners for the first "Cotton Week" in Europe, at Barcelona, May 11-17. The London Post, the last of March, illustrated by comparison of current and past prices, how "now is the time to buy." Attractive prices certainly should help the cotton industry in the coming months and one woman in a big metropolitan center of this country recently made the comment: "I don't see why anybody would bother to make dresses today," referring to the low cost of purchasing them.

Supply, Production and Consumption

CYCLES PROVOKE similar problems of inventory in both raw material and manufactured products. There has always been a perversity of things in raw material, with supplies accumulating as demand has fallen and with stocks diminishing with large requirements in sight. One is at least prompted to ponder the question of adjustment of ideas on cotton curtailment at the start of an era of presumably expanding consumption, especially after reading the ideas of Mr. Coonley on manufacturing inventory procedure. But apart from this consideration, we find more observers inclining to the proposition that attention of American cotton growers should be centered more on intensified methods for low cost and quality of output than to curtailment alone. The position of cotton in American exports, moreover, make this a national concern.

Dr. David Friday, economist, in remarks which are pertinent to this situation, says that "increased production at lower prices will stimulate buying and cause a 25 per cent gain in output of manufactured goods by the end of 1931 and another increase of 15 per cent will come in 1932, while at the begin-

ning of 1933 the business depression will be history." The realization of such advances, obviously, would mean a natural resumption of larger production of raw cotton. It would also re-establish mass production as a sound basis of manufacture.

What the Southern Mills are Doing

THE INDIAN HEAD MILLS, of Cordova, Ala., have purchased the Armstrong roll covering unit to take care of cork rolls being installed in their mill.

Construction is under way on the Clark Thread Company's project near Austell, Ga. Sub-contracts have been let by A. K. Adams & Co., engineers, to the following: roofing and sheet metal, L. M. Leathers, Athens, Ga.; structural steel, McClintic Marshall Corp., Charlotte, N. C.; castings, Rome Machinery & Foundry Works, Rome, Ga. Other contracts for miscellaneous articles have been let. Fiske-Carter Construction Co., of Greenville, S. C., have started work on the cottages of the mill village. The cost of the village is to be approximately $200,000.

The Bremen Mills, Bremen, Ga., are enlarging their plant, installing a new tier of machines, which will increase production from 800 dozen shirts per week to 900 dozen. A number of new operators have already been added and more will be employed when work is completed.

The Bibb Mfg. Co., Columbus, Ga., recently purchased 1,066 new Draper Model X looms. The new looms are to be operated on broadcloths and similar fabrics.

A complete humidifying system is being installed by R. I. Humidifier & Ventilating Co. in the Oconee Mfg. Co., Whitehall, Ga.

Hickory Weavers Inc., Hickory, N. C., are planning to increase their capitalization and enlarge their plant for the manufacture of draperies and upholstery fabrics.

The Grace Cotton Mills, Rutherfordton, N. C., have replaced their "Breton Minerol" process which has been in service since 1925 with the 1931 model.

It was recently reported that the Spofford Mills, Wilmington, N. C., were to resume operations immediately, and that $340,000 was being spent on remodeling the mill and houses for the employees.

The Appleton Mills, Anderson, S. C., are having their roof rebuilt at a cost of $150,000. J. E. Sirrine & Co., Greenville, S. C., are the engineers.

Holt, Love and Smith, Inc., Burlington, N. C., are adding 10,000 additional feet of floor space to their factory which will house 36 more looms.

Ellenboro Mfg. Co., Ellenboro, N. C., manufacturers of rayon bed spreads, luncheon sets and mattress covers, will increase the capacity of the mill, adding a new dye plant and 28 new looms.

Modern sanitary equipment for homes will be installed at the Proximity Print Works, White Oak, Revolution and East White Oak Mills, Greensboro, N. C., at a cost of over $200,000.

A new humidifying system is being installed by R. I. Humidifier & Ventilating Co. in the Spofford Mills, Inc., Wilmington, N. C., formerly the Delgado Mills.

Ledbetter Mfg. Co., Rockingham, N. C., recently installed Breton Minerol Process equipment for oil spraying cotton. This was purchased from Borne Scrymser Co.

The new bleachery, recently reported to be constructed for Commander Mills, Sand Springs, Okla., is now under construction and will be in operation about May 1, it was recently announced. The total cost will be about $350,000. J. E. Sirrine & Co., Greenville, S. C., are the engineers on the job.

Hartsville Cotton Mills, Hartsville, S. C., are planning the installation of new picking and card room machinery to be electrically operated.

Cutter Mfg. Co., Rock Hill, S. C., and Carolina Textile Corp., Dillon, S. C., recently placed orders with Borne Scrymser for Breton Minerol process equipment for spraying cotton.

A $30,000 addition to the silk plant of the Berizzi Brothers, Erwin, Tenn., was recently started.

Pomona Mills, Inc., Greensboro, N. C., are reported to have installed a shrinking machine.

Comment on the Cotton Market

New Orleans, April 14th, 1931.

DURING the past month the trend of the cotton market, with the exception of periodical bulges, was downward. There was a slowing down in the steel industry, foreign markets were weaker, there was an apparent lack of confidence in Wall Street, the May position was in process of liquidation, spinners' takings of American continued small, there was a falling off in the spot demand, British Board of Trade returns for March were unfavorable, and fear was entertained that the reduction in acreage may not be as large as expected earlier in the year. Compared with one month ago values show sharply lower. However, the situation is not discouraging as to the distant future since the world's crop is reported smaller than early expectations, and because of the likelihood of a smaller American crop this year for next season's requirements when consumption may be larger than it promises to be this season. It is possible that commencing with May this year, domestic consumption may be larger than it was after April last season.

Recently the New York Cotton Exchange Service estimated the world's cotton crop this season at 25,650,000 bales of 478 pounds net, against 26,733,000 last season, or about 1,100,000 less than early season indications.

Washington advised lately that the world's cotton crop for 1930-31 season was estimated by the agriculture department at 25,500,000 bales as compared with 26,300,000 in 1929-30. In the United States and 16 foreign countries, for which production statistics are available for the 1930-31 season, the crop totals 23,752,000 bales as compared with 24,736,000 last year.

When the relationship between the ginnings to March 1 and the final estimate of the last two seasons are compared with the ginnings to March 1 of this year, the department said, indications were that this year's estimate may still be too high.

ASSOCIATION OF COTTON TEXTILE MERCHANTS OF NEW YORK MARCH STATISTICS

Yards—	March 1931 5 weeks	February 1931 4 weeks	March 1930 4 weeks
Production	271,638,000	212,168,000	261,403,000
Sales	295,334,000	326,691,000	292,249,000
Shipments	317,185,000	248,354,000	265,675,000
Stocks	273,781,000	319,328,000	440,853,000
Unfilled orders	373,951,000	395,802,000	387,463,000

March sales of domestic cotton goods were 108.7 per cent of production against 154.0 per cent in February this year and 111.8 in March last year. Shipments were 116.8 per cent of production against 117.0 in February this year and 101.6 in March last year. Stocks at the end of March decreased 14.3 per cent against a decrease in February this year of 10.0 and a decrease in March last year of 1.0. Unfilled orders at end of March decreased 5.5 per cent against an increase in February this year of 24.7 and an increase in March last year of 7.4.

BRITISH BOARD OF TRADE REPORT FOR MARCH

Year—	1931	1930	1929
Exports of yarn, lbs.	11,000,000	13,000,000	14,000,000
Exports of cloth yards	136,000,000	281,000,000	334,000,000

CENSUS REPORT

United States— Bales—	This season	Last season
Consumption, including linters, March	553,357	572,046
Consumption, including linters, 8 months	3,840,482	4,868,404
Mill stocks, March 31st	1,477,758	1,758,171
Stocks in public storage and warehouses, March 31st	6,642,648	4,198,077
Stocks in mills, public storage and warehouses, March 31st	8,120,406	5,956,248
Active spindles during March	26,489,832	28,862,400
Active spindles during February	25,763,408	28,920,162

The Census report was about as generally expected. Constructive features of the report, however, are that consumption last month increased, as to lint, about 57,000 bales, whereas for the corresponding month last year the increase

The basket-ball team of the Bevelle Mills, Avondale Mills, Alexander City, Alabama, who are the 1931 southern textile champions, having won the annual tournament in Greenville, S. C., this year in which 51 teams from mills in four southern states were entered.

was about 14,000 bales, while active spindles during March increased 726,424 against a decrease of 57,762 during March last year, showing a relative increase compared with March of last year of 784,186 spindles.

MOVEMENT TO MARKET AND EXPORTS FROM UNITED STATES

Hester's figures— Bales—	This season	Last season
Week's in sight (marketed)	39,995	96,721
In sight from August 1st to April 10th	13,115,712	14,068,619
Exports for week ending April 10th inc. Canada	92,500	89,000
From August 1st to April 10th	5,802,800	6,032,000

SPINNERS' TAKINGS OF AMERICAN COTTON, BALES
August 1st to April 10th

Hester's figures—	This season	Last season
North and Canada	1,223,000	1,656,000
South	3,214,000	4,144,000
Foreign	4,650,000	5,390,000
World	9,087,000	11,190,000

WORLD'S VISIBLE SUPPLY OF COTTON, APRIL 10TH

Hester's figures— Bales—	This year	Last year
American	7,110,918	4,671,632
Other kinds	2,543,000	2,703,000
All kinds	9,653,918	7,374,632
Middling in N. O. today (April 14)	10.01	15.68

Spot sales at reporting Southern markets for week ending April 10th were 30,486 bales compared with 23,416 for corresponding week last year.

Returns to Secretary Hester show sales of fertilizer tags in ten Southern States for March to have been 1,204,839 tons versus 1,687,594 for March last year, and for eight months ending March 31st 2,175,731 tons against 3,254,611 tons for corresponding time last season.

As to intentions to plant this year, private estimates issued so far range from 8.4 to 15.1 per cent decrease in the acreage. The average of eight private estimates, as to the decrease in acreage, is 11.1 per cent.

TOTAL AVERAGE RAINFALL IN TEXAS, IN INCHES

Year—	1931	1930	1929	Normal
March	2.54	1.73	2.58	2.08
November to March inclusive	12.98	9.86	11.33	10.19

Texas apparently has a good season in the ground, and the recent generous rains in the central and eastern belts have relieved the drouthy conditions that prevailed in those parts some time ago.

In the weekly review, issued for week ending April 14th, Washington stated: "Seasonable temperatures and light rainfall prevailed in the eastern cotton belt, while temperatures below normal and light to moderate rainfall prevailed in the western portion of the belt.

"Cotton planting is under way in the coastal plains of the Carolinas and has commenced in Georgia northward to Augusta and Macon.

"From Alabama westward cool nights and wet soil retarded germination of cotton in some districts; local replanting probable. Little cotton has been seeded northward of southern Oklahoma and central Arkansas."

From now on the market will likely come more under the influence of climatic developments in the cotton region. A period of dry, warm weather is evidently needed in nearly all sections of the belt to permit favorable progress of planting, germination and of growth where young cotton is up. A period of favorable weather might influence values to a lower price level, whereas a spell of unfavorable weather may sustain the market, perhaps cause the market to advance again.

Trade advices remain generally unfavorable in England and generally on the Continent of Europe, but the cotton textile situation in the United States and in Japan appears to be improving, if only slowly.

New England Mill Situation

April 18, 1931.

FINE GOODS manufacturers in New England generally find themselves in a well sold position at the present time. Purchasing of staple merchandise has gone beyond the expectations of many of the mills, and in some classifications has kept up steadily, particularly as warmer weather has developed at an earlier date, causing increased demands for finished goods slightly beyond the scale for which converters and others had prepared themselves. Business in fancies has also been encouraging, a considerably deferred demand for rough weave novelties in all-cotton and in rayon and cotton having materialized under recent date and caused a spurt of activity in such goods. Underwear, lining, and dress goods specialties, particularly in all-rayon types and in acetate process descriptions, have been active. The clipped spot marquisette trade has been very encouraging, and marquisettes and plain curtain weaves are due to broaden out in late May or June.

There has, of course, been some slackening of demands under recent date from the higher pitch of a short while ago. Production continues at a good clip, with most of the mills that are in operation running at the peak of their capacity under current curtailments. This means about 68 per cent of full single shift output. Shipments of fine goods are holding up well and promise to continue to do so at least for 30 days to come. Buying of staples at present is chiefly to fill in for that period, or at best to June 1. Prices have continued to show strength, and there are those close to directing forces in the New England situation who express confidence that they will not be allowed to slip. Production may be reduced around the middle of May if conditions do not warrant a continuance of the present level. Concentration of staple production within a smaller circle of mills and the custom of refraining from making fancies except for contract is expected to facilitate such action.

Recently the largest single shipment of cotton ever received at Fall River, Mass., was delivered when the Str. Monsomo docked there with a staple cargo from Houston, Tex., valued at $500,000. A total of 10,000 bales, 2,000 for New Bedford mills and the balance for Fall River, was included. The heavy takings were reported due to the reopening of the American Printing Company's Ironworks mills. All divisions of the company's cloth division have resumed operations during the past month, the five units

S. T. A. to Meet at Isle of Palms.

Secretary Taylor has announced that the annual meeting of the Southern Textile Association will be held at the Isle of Palms Hotel, Isle of Palms, Charleston, S. C., on Friday and Saturday, June 12th and 13th.

Those planning to attend are requested to make their reservations direct with the hotel.

It is understood that the entire program of this convention will be of a "home-grown" nature; that is, that everyone on the program will be a member of the association, and it is expected that a number of interesting novel features will be included. The resort at which the meeting will be held is well known, and a good attendance is anticipated.

being on full time, employing 2,000 operatives, and running some looms overtime. Settlement of the strike declared when the first unit reopened a short time ago has come about, the Textile Council objecting to the adjusted wage scale, and the company making some concessions.

The strong position of the American Printing Company was reflected in its recent statement to the Secretary of State of Massachusetts, which is its only public financial report. The concern suffered a loss last year. Valuations on plant and machinery were conservatively placed, accounts receivable were considerably less than a year ago, but cash assets were $1,264,738 against $531,113 a year ago. There were reductions in accounts and notes payable from the preceding year, and surplus was figured at $10,384,806 against $11,873,905 a year ago.

In Fall River a strike was declared by the Textile Council against the Charlton Mills, fine cotton goods manufacturers due to grievances of weavers. The mill is one of the few that has not cut wages. It has been running at capacity for some months, employing 600 hands, and has been well sold ahead, particularly on cotton voiles, according to trade reports. Pickets have been attempting to discourage workers from employment. James Sinclair is treasurer of the mill. Production has not been interfered with.

The Narragansett mill in Fall River has resumed operations after being idle for several months. Stock in process of sateens is being run out with a small number employed, but preparations for operation on a larger scale and the running of other cloths are understood to be going forward. A number of changes have been brought about to effect more economical operation of the mill and enable it to meet competition.

The Parker and King Philip Mills in Fall River of the Berkshire Fine Spinning Associates have been running at capacity for some time, and a few units have been running overtime. The Durfee Mills in Fall River reported a surplus of $125,000 for the fiscal year ending January 3. Two of the three units are being operated, the other having been dismantled and leased to small concerns. Liquidation dividends of $11 per share bringing total to date to $46 per share were paid Flint Mills stockholders during the month. The $46 per share is the amount paid for controlling interest in the stock by the Jerome A. Newman interests last fall. Some machinery has been sold, and the mill received $70,151 tax abatements from the city recently. Tax abatements totalling $900,000 have recently been paid by the city to some 17 concerns under recent date.

The General Cotton Corporation, recent purchaser of Lincoln and Davis Mills in Fall River, and interested in some other enterprises, held its annual meeting in Dover, Del., during the month. Frank L. Carpenter, former treasurer of the Davis mills, was re-elected secretary and treasurer; J. Whitney Bowen, former Flint Mills treasurer, was re-elected president, and J. Whitney Bowen, Frank L. Carpenter, Walter H. Langshaw of the Dartmouth Mill, New Bedford; John Sullivan of the Taber mill, New Bedford; Percy S. Howe, Jr., Homer Loring of United Merchants and Manufacturers, Inc., and H. Nelson Slater were elected directors. The financial statement was accepted, as follows:

Assets—Cash, $34,208.99; accounts receivable, $67,200; investments in Davis Mills, $450,000; investments in Lincoln Mills, l$159,375; subscription received, $383,842.20; organization expenses, $3,447.72; total, $1,098,074.51.

Liabilities—Capital stock subscribed, $451,042.80; capital stock, $278,097.66; paid in surplus, $369,972.60; less deficit, $1,038.49; total, $1,098,074.51.

Amoskeag Manufacturing Company of Manchester, N. H., largest cotton manufacturers, reported a manufacturing loss of $1,345,389.50 before depreciation, according to the annual report of Treasurer Frederic C. Dumaine issued during the month. The loss compared with a profit shown the previous year. Gross business of the concern during 1930 was $19,802,344.50. The loss, added to dividends of $365,977 and bonus paid employees of $356,220.92 has reduced the net quick capital of the concern to $13,728,776.27. The report indicated expenditure of $1,030,000 for new machinery during the year. Mr. Dumaine's report said that the troubles affecting the concern were not at an end, for more spindles are in operation in the country than there is need for. While admitting the desirability of laws preventing combinations resulting in unjust profits at the expense of the people, Mr. Dumaine held that the ban on all combinations, even those preventing ruinous losses, was going too far. The company re-elected all officers, naming William Dexter of Boston trustee to succeed the late George Wigglesworth. Considerable reduction of inventory was mentioned as an achievement of the year, goods on hand being reduced by more than $1,000,000.

Also in Northern New England, losses were shown by the group of five cotton mills allied with the Insull interests and under the control of New England Industries, Inc. Bates Manufacturing Company of Lewiston, Me., showed decrease in surplus of $1,013,567 and operating loss of $459,575, due to declining prices of raw materials. The balance sheet of the Androscoggin Mills showed a deficit of $137,804, and the operating loss was $208,577. Hill Manufacturing Company showed an operating loss of $310,453. The Edwards Manufacturing Company showed an operating profit of $59,912 before charges of $274,783 for inventory reduction. Deficit of $1,227,524 was shown on the balance sheet of the York Manufacturing Company of Saco, Me., the most recently acquired unit. Operating loss of $131,211 for nine months ended December 27 was shown.

Increased employment on night shifts was reported by New Hampshire Knitting Mills due to increased orders for bathing suits.

In Lawrence, Mass., increase of 30 per cent in employment was reported, with broader activity in both woolen and worsted, and cotton activity. Pacific Mills plants at Lawrence were running better, automobile and other cloths being among orders on which mills are working. The Lowell Mills Company, men's and boys' woolen hosiery manufacturers, have purchased the No. 4 plant of the Shaw Stocking Company, recently liquidated.

Kilburn Mill, New Bedford, announced second payment of $10 on capital stock to be made shortly. Previous payment was $15. Voting is going forward on the question of liquidation or continued operation of the Nonquitt Mills in New Bedford. Reports that Bristol Manufacturing Company machinery was to be sold were denied by Jerome A. Newman. Overruling of defendant's demurrer occurred in the suit of Jacob Genesky of New Bedford, Whitman Mills stockholder, who is seeking appointment of a receiver for Whitman Mills, Inc., and to enjoin Charles L. Harding, president, from further liquidating the property. The plaintiff may proceed to trial of his bill.

The Alice Mill of the Woonsocket Rubber Company closed indefinitely on April 11. Liquidations of some textile plants in Woonsocket has been begun.

Bemis Bro. Bag Company, Boston, Mass., operating cotton mills and bag manufacturing plants in many sections of the country, issued a re-classification of Indian jute mills during the month accepted as official in the bag and burlap trade.

Federal Silk Dyeing and Finishing Company, Paterson, N. J., was revealed as having made a profit of $3,000 last year and as having operated at a profit thus far this year when the courts dismissed an application for appointment of a receiver.

New Textile Equipment and Publications

Individual Offices of Steel and Glass.

The Sanymetal Products Company, 1761 Urbana Road, Cleveland, Ohio, are distributing Bulletin No. 59, covering their line of individual offices of steel and glass for industrial plants. Two of the types in this line are shown in the accompanying illustrations. These individual office units are adaptable for various uses in industrial application, and, in the textile plants, should be particularly adaptable for use as a paymaster's office, etc. These units are available in various stock sizes, and individual offices can be created in almost any size desired. Each booth of the type shown comes equipped with ventilator, which can be locked, wicket window and shelf, and full size doors equipped with hinges and lock. This type is portable, and can be equipped with rollers to permit easy moving and storage. The finish is green baked enamel.

In addition to the portable type, the units are available in larger sizes, Type 5 being 10½ x 10½ feet by 7½ or 9 feet high.

All of these units, portable and stationary, employ the general design, construction and materials used in the well known line of Sanymetal office partitions. It is pointed out that the larger size is especially suitable for use as executive or superintendent's or other officials' office.

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Charts.

Brooke Engineering Company, Inc., 3640 N. Lawrence St., Philadelphia, Pa., recently published Bulletin H-2, entitled Charts. The purpose of the bulletin is to show how accurately pressure or temperature is being regulated under widely varying conditions in different plants. The booklet contains charts taken from a very diversified group of plants, and will be found very interesting.

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New Dyestuffs Announced.

Newport Chemical Works, Inc., Passaic, New Jersey, have announced two new dyestuffs, Newport Silk Fast Blue 3 G and Newport Acid Anthraquinone Blue A B.

It is stated that the first is characterized by its excellent leveling properties and good fastness to light, washing, hot pressing and excellent fastness, to perspiration on weighted or pure silks.

Newport Acid Anthraquinone Blue A B, the company states, while primarily an acid dyeing color, is also useful in shading and brightening chrome colors, since chroming alters the shade but little. Afterchroming improved the fastness to fulling slightly, but the fastness is not otherwise affected, it is stated.

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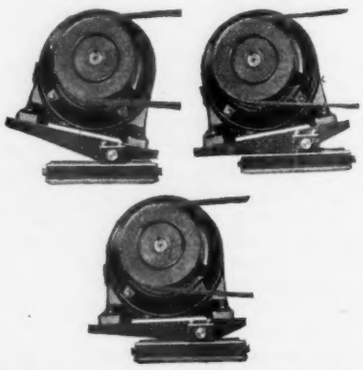
The Floating Motor Drive.

Every action has a reaction. When a gun is fired the forward motion of the bullet is felt in the reaction of the gun itself—the "kick-back." Similarly in a motor, the rotation of the armature provides a "kick-back" to the motor frame. With a pivot mounting of the motor this reaction is permitted.

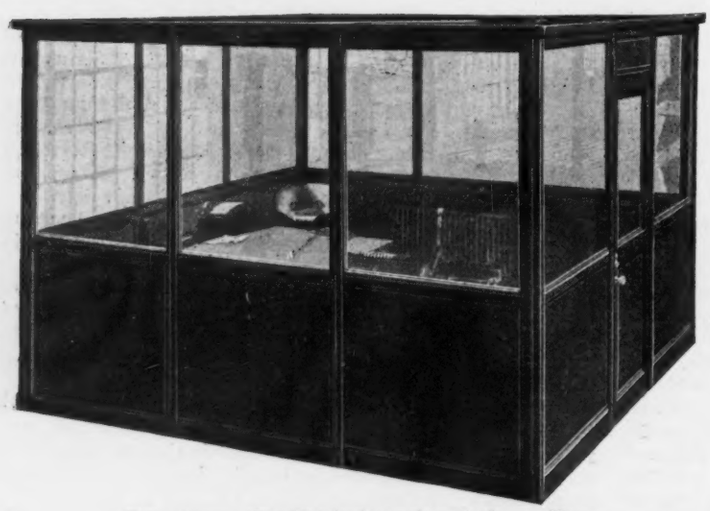
The heavier the load on the belt, the greater the "kick-back" or torque reaction on the frame and the greater the tension on the belt. Conversely the lighter the load on the belt—the lighter the torque reaction on the frame and the belt tension is automatically lessened. The inertia of the driven unit in starting provides a heavy belt tension at the start of the motor which is automatically lessened as the unit gets into motion.



Showing principle of "floating motor drive." Top, left, position of motor when not operating; top, right, position when power is first applied; and, bottom, running position.

Advantages claimed by The Kritzer Company, 515 West 35th St., Chicago, for the Floating Motor Drive, which is very adequately illustrated by the accompanying illustrations, are:

Permits the use of short belt centers on all applications of motor drives; eliminates the use of idlers; utilizes motor torque to maintain belt tension, weight of motor does not hang on belt; belt tension is exactly proportioned to the load; the elimination of manual take up of normal belt stretch; eliminates excessive belt noise; eliminates



Two types of individual steel-and-glass offices.

belt slippage; permits use of smaller pulley sizes where necessary; eliminates motor wearing due to tight belts; lower power costs; eliminates bearing troubles on driven units due to excessive belt strain.

The company points out that the drive can be applied to any motor-driven equipment.

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Reliance One-Unit Motor Generator Set.

The Reliance Electric & Engineering Co., 1088 Ivanhoe Road, Cleveland, Ohio, manufacturers of alternating current and direct current motors has developed a new one unit motor generator set for ratings of one to five kilowatts.

They state that in these sets the usual alternating current motor and direct current generator are combined into a single unit, requiring only two bearings—one at each end. The induction motor rotor and direct current armature are mounted on the same shaft.

The company states that this design provides a very rugged, compact construction which requires less space than with the two unit sets. They also point out that because it is one unit the work of connecting and aligning individual units and attendant troubles are eliminated. The conduit outlets are large to make wiring very easy. The sets are made for operation on either two or three phase circuits of any standard voltage or frequency and have an output rating of 1 to 5 k. w., at 125 or 250 volts. They may be obtained with either sleeve or ball bearings.

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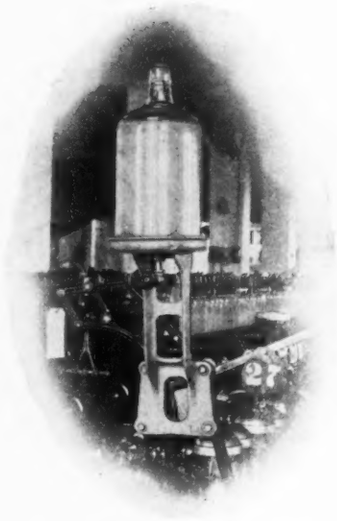
New Strickland Moistening Appliance.

Recently placed on the market is the new Strickland Moistening Appliance for full fashioned mills. It may be explained by saying that it consists in each knitting machine being equipped with a two gallon bottle conveniently poised on a bracket, to which is connected a valve and pipe in the bottom, conveyed to a series of troughs running the entire length of the machine. The bottle is kept well supplied with the moistening fluid which feed through a pipe into the troughs. The end of the pipe emptying into the trough is emersed when the trough is filled with the liquid to the proper level. This level is regulated by the natural forces of the action of atmospheric pressure and vacuum. As the threads feeding through the liquid in the trough absorb and decrease the level, the end of the pipe in the trough is exposed, letting a bubble of air into the top of the bottle and this, in turn, allows a fresh supply of fluid into the trough. Ordinarily,



New Moistening Appliance.

the bottle holds a nine hour supply of the fluid. Particular care has been taken to use only metals in the valves, pipes and troughs that will not generate harmful acids to injure the silk.

The Strickland Pattern Works, Chattanooga, Tennessee, point out that the Strickland appliance is already being successfully used in a number of mills.

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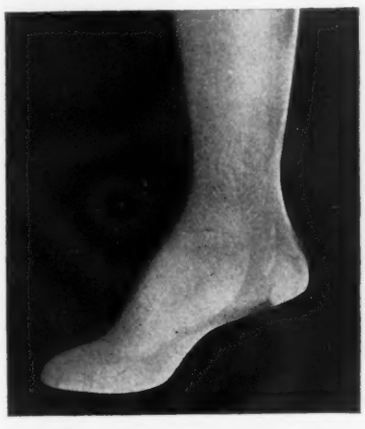
A New Single-Unit Full-Fashioned Machine.

Alfred Hofmann, Inc., West New York, N. Y., have introduced to American hosiery manufacturers two new types of full-fashioned machines made by Schubert & Salzer of Chemnitz, Germany, whom they represent in this country. These machines, known as Type HSU and Type SSUJ, are primarily intended to produce a stocking in one operation, but, it is also pointed out, these machines, without any mechanical changes, can be used as either a legger or footer separately. As single unit machines, it is stated, a heel following the curvature of the human foot even more closely than



Knit on Single-Unit Machine.

with their present machines is produced. The heel is not forced, pulled or formed on the board, it is stated, but is actually widened-out and narrowed-in, giving assurance for good fit.

A very ingenious device is used to secure a perfect selvage, it is stated. Looping at the heel is not necessary, and the seam can be run from the welt all the way through to the toe. A reduction in seconds is indicated by the fact that there is no difference in the fabric of the leg and foot.

While an outgrowth of the Type HSL high speed machine, Type HSU is different in design, as the machine is heavier, and the location of the shafts and transmission has been changed. The standard machine is equipped with picot edge, pointed heel and lace clock attachments. Type SSUJ is a single-unit Jacquard machine for lace designs which can also be used to manufacture plain stockings; and also employed as a legger or footer.

The machines are designed to run at a minimum speed of 70 courses per minute for plain stockings. The needles have been shortened further to provide for more even alignment. The machines have been designed to make their operation as nearly automatic as possible.

The principle of the pressing motion has been entirely changed, being equipped with presser bars having individual press needles for each knitting needle. Both types are equipped with hook knocking-over bits. The knocking-over bar is movable horizontally and vertically; through this construction, it is explained, it is possible to knit fabric right off the needles without using the welt bar and draw-off to take up the fabric and without previously topping-on. Shorter yarn carriers are used in the yarn feed mechanism. The friction mechanism has been changed. There are two friction rods running at different speeds; one running at the same speed as the slur cock, the other at either ½ or 2/5 of the speed of the slur cock. Before completion of each course, the friction on the rod running at the same speed as the slur cock is automatically coupled with the slower running friction rod so that speed reduction toward the end of the course of from ½ to 2/5 is obtained to secure a shockless hitting of the thread carriers. The needle bars can be disengaged individually.

On the Type SSUJ machine, which is the Jacquard machine for lace work, all motions as well as the design are controlled through the Jacquard card, but on the Type HSU machine there is also a Jacquard which, while considerably smaller and in front of the machine, performs similar functions. This small Jacquard, it is explained, wherein

er making a plain stocking or one with a lace clock, controls all the narrowings, the lace pattern and all necessary stops. It is pointed out that this makes it possible, in changing over machines to a certain style, simply to make up one master card and copy a sufficient number of cards for the machines, so that it is unnecessary to set the chains for each machine.

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New Banner Knitting Methods.

A new method of reverse plaiting hosiery has been placed on the market by Hemphill Company, Pawtucket, R. I., makers of Banner automatic hosiery machines. The method is called by the company "positive plaiting" and results in a fabric in which the color influence of the inside yarns upon the surface is largely eliminated, the company explains. It is also pointed out that the attachment changes the tension on the outside yarn in reverse plainting so that a longer outside loop is obtained in knitting. This allows the outside loop to lie directly above the inside loop throughout all parts of each stitch in place of being drawn slightly to one side where the stitches are caught. The attachment can be placed on any Banner 12-step machines now in operation, it is stated. Fig. 1 herewith shows a comparative sample of the use of the attachment.

The company have also introduced a new spindle for controlling the number of colors in a vertical stripe on their wrap stripe machine. This new attachment permits the use of as many as three colors in a vertical stripe or design and can be used in conjunction with either plain or plaited body fabric. It is simple in design and employs the same principles of control as were used on the Banner wrap stripe machines introduced over three years ago.

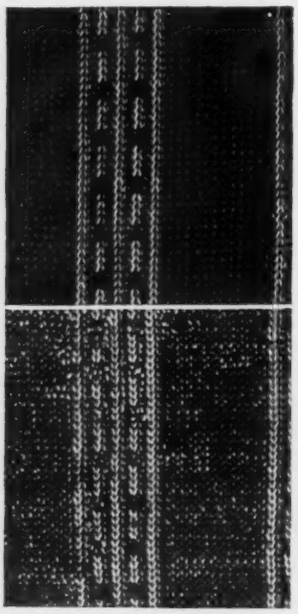

Fig. 1. Both swatches shown were knit on same machine, to show improvement effected by positive plaiting; one machine equipped, the other without the plaiting attachment.

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Four New Dyestuffs.

Pontamine Fast Orange EGL, Ponsol Brilliant Violet 4R Paste, Pontacyl Fast Violet VR and Pontamine Fast Green GL are four new dyestuffs recently placed on the market by E. I. Du Pont De NeMours & Co., Inc., Wilmington, Delaware. They are fully described in pamphlets E. 449, E. 462, E 465 and E. 466, respectively.

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New Motor.

In the design of the new Westinghouse W-frame type CS squirrel cage induction motor, the manufacturers have incorporated an important innovation in motor design, they state. The new feature is in the making of the different parts of the motor as entirely separate units. Having adopted the separate parts idea, the company states that they have only to keep the number of standardized parts in stock to be able to build, on short notice, a motor for a specific application. It is pointed out that the new design makes maintenance simpler and less expensive, because damaged electrical parts can be replaced without replacing or rewinding the motor.

Specialization in machinery and manufacturing processes has brought to the motor manufacturer demands for specialized motors—motors conforming strictly to the rigid requirements of the machines they are to drive, the company states. Obviously, it is impossible for a manufacturer to keep on hand for instant delivery even a representative quantity of the vast number of types which this demand for specialized motors has created; but, by manufacturing the different motor parts as separate units, stocks of each unit can be economically maintained, and special motors can be quickly supplied "custom built" to the purchasers' requirements, is the viewpoint of the company.

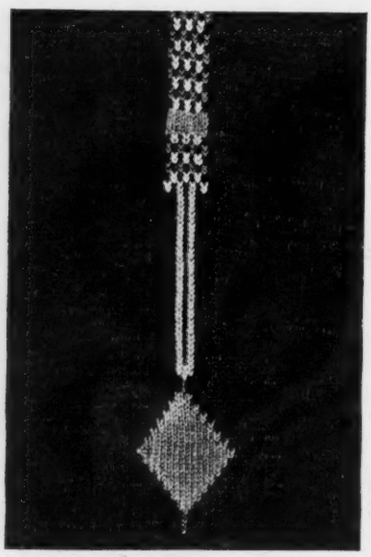

Fig. 2. Illustrating Banner wrap stripe hosiery knit with plaited body fabric and triple color change in vertical design.

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New Tycos Compensated Tubing.

To eliminate possible error in the functioning of temperature instruments, due to external temperature conditions surrounding the tubing connecting the bulb to the instrument itself, has long been the endeavor of temperature instrument engineers and designers. Many methods have been attempted, the majority have been unsuccessful, according to Taylor Instrument Companies, Rochester, N. Y.

They state, however, that they have produced a type of capillary tubing in which the compensating qualities have been incorporated in the material of the tube itself. No parts are added to the mechanism of the instrument, and no adjustments are necessary during the life of the instrument, the company states.

Essentially the new method consists of so proportioning the volume of mercury in the tubing to its co-efficient of expansion and to the size of alloy wire, that any change in the volume of mercury, resulting from external temperature changes is accurately compensated. For this reason the adjustment is made for each varying exposure, and it is not necessary to compensate the instrument for the average external condition along the length of the tubing, a difficult, if not impossible adjustment to make, they point out.

They say that to make this new development possible, it was necessary for them to devise entirely new methods of producing the steel tubing, and the finished product is controlled from the standpoints of material, physical properties and accuracy of bore, within extremely close limits.

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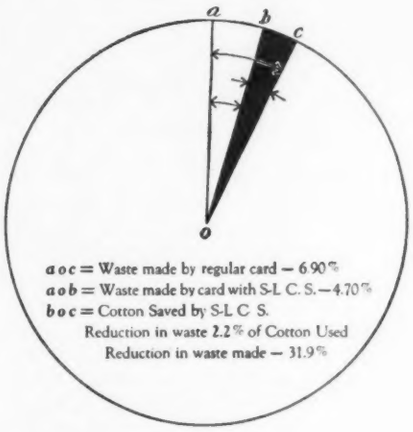
Steel Flooring and Floor Armoring.

Kerlow Steel Flooring Company, Jersey City, New Jersey, recently issued catalog F-66-I, which gives the application, advantages, descriptions and specifications of Kerlow steel flooring. The book is really a pictorial review, giving the experiences of those who have used Kerlow.

TEST NO. 219 SHOWS 94.4 Bales of Cotton Saved in One Year by the SACO-LOWELL CONTINUOUS CARD STRIPPER



a o c = Waste made by regular card — 6.90%
a o b = Waste made by card with S-L C. S.—4.70%
b o c = Cotton Saved by S-L C. S.
Reduction in waste 2.2% of Cotton Used
Reduction in waste made — 31.9%

SUMMARY OF TEST No. 219

GENERAL DATA:

Make of Cards	Saco-Lowell
Width and Coiler Size	40" card—12" coiler
Cylinder Speed	165 R.P.M.
Doffer Speed	11 R.P.M.
Weight of Lap	13 oz.
Weight of Sliver	55 grains
Kind of Cotton	15/16" Middling to Strict Low, Western
Number of cards in room	56

PRODUCTION AND WASTE DATA:

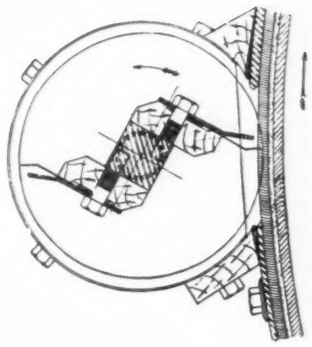
	Regular	S-L-C-S
Pounds Carded per day	134	136.7
Sliver produced	93.1%	95.2%
Cylinder Strips made	.85%	None
Other Waste	6.05%	4.70%
Cotton saved per card per day		2.81 pounds
Cotton saved in room per year		47,208 pounds

WEIGHING OF SLIVER

	Regular Card (Weight in grains)	Saco-Lowell Continuous Card Stripper* (Weight in grains)
15 min. after stripping	53	55
After 2 hrs. running	55	55½
15 min. before stripping	57	55

*These weighings made at the same time as regular weighings, and are the average of 25 separate weighings.

Detail drawing showing relation of stripper lifting needles to cylinder



TESTS in many representative mills show that one of the greatest advantages obtained with the Saco-Lowell Continuous Card Stripper is the saving of cotton. There are other advantages *equally as important*.

These facts, as well as many others, are clearly explained in a new book just issued. This book describes the Saco-Lowell Continuous Card Stripper, its method of operation and application, and has a summary of tests made in many mills.

Upon request a copy will be sent you immediately by any of our offices.

SACO-LOWELL
MANUFACTURERS OF TEXTILE MACHINERY
147 MILK STREET, BOSTON, MASS.
CHARLOTTE, N. C. SPARTANBURG, S. C. ATLANTA, GA.

NEWS ITEMS *with a Textile Slant*

Morgan Becomes Associate of Textile Development Company

Robert A. Morgan has become an associate in The Textile Development Company, consulting engineers on cotton manufacturing, which maintains offices at 80 Federal Street, Boston, Mass., and Jefferson Standard Building, Greensboro, N. C. Mr. Morgan will be connected with the Greensboro office at the present and is making his headquarters at his home in Rome, Ga.

Mr. Morgan's previous connection was with the Tubize-Chatillon Corporation at Rome. Prior to this association, he had been agent at the Southern Brighton Mills, Shannon, Ga., and had previously held other important positions in the textile manufacturing industry.

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Clemson Adds New Assistant.

On account of the large enrollment in the textile chemistry and dyeing division of the Clemson College Textile School, F. Albert Sauter has been added to the present staff as laboratory assistant, the school announces. While acting as assistant, he is to make a further study of printing and dyeing in the textile department.

The school also announces the installing in its dyeing laboratory an Abbott swatch-making machine and pad dryer for the preparation of swatches of dyed cotton and other fibers.

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The New Treatise on Leather Belting.

Professor Haven and Professor Swett of the Massachusetts Institute of Technology have prepared a scientific treatise on the subject of leather belting, its manufacture, methods of use, proper care, etc. The authors state that the purpose of the book is fairly well given by the introduction, parts of which are:

"The use of mechanical power made possible modern industry. To use power, it must be transmitted to machinery. Leather belting has always contributed a large part of this work. It has attributes which give it preeminence for many purposes in this field.

"This book is offered to the engineering world with the hope that it may lead to a better appreciation of leather belting as a transmission medium, and that it will result in more intelligent understanding of its proper application and use."

The contents of the book, by chapters, is as follows: Leather Manufacture; Physical Properties of Belting Leather; Methods of Manufacture of Leather Belting; Belting Practice; Installation and Care of Leather Belting; Leather Belts on Motor Installations; Belt Drive Engineering; Belt Research; Specifications and Inspection; Tables, Nomographs and Plots.

Professors Haven and Swett prepared the book under commission of the American Leather Belting Association, New York City. The price of the book is $1.50 per copy. Copies may be secured either from the association or from manufacturer members of the association.

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A New Idea in Lighting.

The Ivanhoe Division of the Miller Company, Meriden, Conn., recently announced that they had completed a line of unusual and unique fixtures embodying entirely new ideas in design and construction as well as a new idea in lighting.

This new line of equipment will be known as Duo-Purpose lighting fixtures, the company states, as they employ two circuits, one using ordinary Mazda lamps for general lighting for vision, the other using the General Electric S-1 Sunlamp for ultra-violet radiation.

The company states that these fixtures are designed for use in offices, stores, homes, banks, etc.

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Durene.

Speaking at the Chapel services at Anderson (S. C.) College recently, Miss Doris Hinman told 150 students of the advancements in fine cotton mercerizing and the new fashion fields which quality identified durene cotton is today entering. College women modeled durene cotton clothes.

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King Cotton.

King Cotton and his royal court will reign supreme in Houston, Texas, during a three day cotton festival to be held there May 21, 22 and 23. The event is being sponsored by the Houston Cotton Exchange in co-operation with the Chamber of Commerce and other organizations.

The festival is planned primarily to increase the consumption of cotton products. It takes on added significance on account of Houston being one of the leading cotton cities of the world.

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Wear Cotton Campaigns.

In reporting the evidence of the growing cotton-mindedness of the country, George A. Sloan, president of The Cotton-Textile Institute, Inc., recently took occasion to comment on the wave of "Wear Cotton" campaigns now sweeping cotton-growing states as a significant development in relation to increased consumption of cotton.

"During the past two years, the South generally," Mr. Sloan said, "has not accorded to cotton fashions the preference that might have been expected in view of the popularity and acceptance of cotton by the 'fashionables' in the style centers during that period. There is no room for doubt, however, about the enthusiasm this year of this great natural market for cottons in southern states. The fact that in almost every instance socially prominent women, as individuals or in groups, are the sponsors of these local campaigns, has attracted the support of merchants and other business interests in each community. Retailers have cooperated in providing stocks of cotton piece goods and ready to wear apparel with gratifying benefits to themselves."

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The Quality Control Plan in Pictures.

A new motion picture entitled "The Quality Control Plan" presenting the story of tested quality rayon that lies behind the Crown label, has just been completed by The Viscose Company and will be immediately available to all stores through the Film Service Bureau, according to the company.

Both the knitted and woven fields are covered, and both are dedicated to "the merchandise personnel of the retail stores of America, for the promotion of a better understanding and in order to establish a method of identifying a standard of quality merchandise on the part of the retailer and the consumer."

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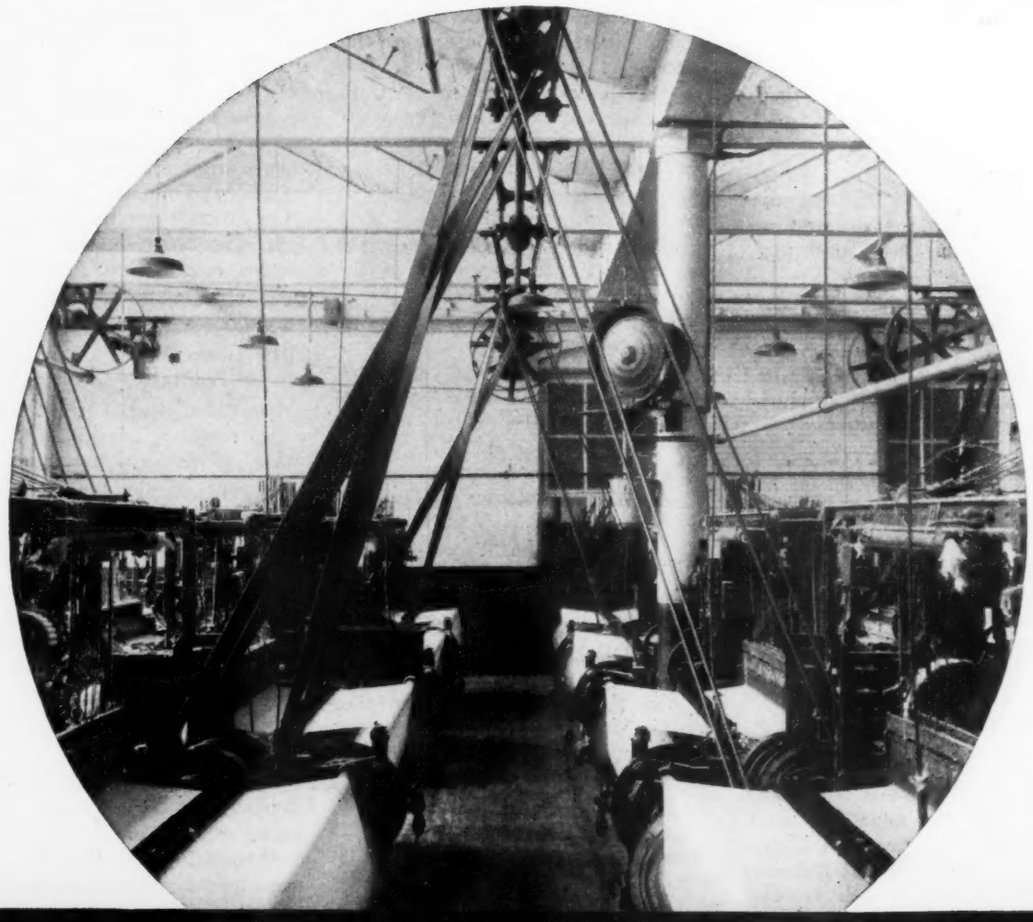
Improvements in Scale Models.

The Toledo Scale Company, Toledo, Ohio, has just announced many improvements in all scale models.

A three year standardization program, whereby the number of manufactured scale parts was greatly reduced, has just been completed by this company. They state that the savings resulting from this program have been devoted to improving the quality of Toledo Scales.



Goodyear belting drives textile machinery at low cost because built for textile service

Hundreds of belts, thousands of feet of belting are employed daily in seven Goodyear fabric mills at New Bedford, Mass., Goodyear, Conn., Cedartown, Rockmart, and Cartersville, Ga., Los Angeles, Cal., and St. Hyacinthe, Quebec.

What finer laboratory for the development of textile belting could a manufacturer ask? What better assurance could you have of fine textile belting than the name of Goodyear on your purchases?

Goodyear knows textile belting from its experience in Goodyear's own textile mills.

The Goodyear Compass (Cord) Endless Belt—a nearly stretchless belt with a core of cords—was developed for individual motor drives on Vertical Openers, Pickers, Lappers, and Twisters.

The Goodyear Thor Belt, seamless, with edges protected against wear from shifting by a covering envelope, is ideally suited for Cards, Draw Frames, Slubbers, Intermediate and Fine Frames, Spinning Frames, Spoolers, Looms, Slashers, and Breakers.

Both of these fine belts result from Goodyear's special knowledge of mill requirements. They have saved money for Goodyear over other belting. They should save money for you.

Goodyear Belts are ready in the exact sizes needed for your machines. The G. T. M.—Goodyear Technical Man—knows the specification for each of your drives. He knows your problems. He is ready to consult with you now on belting your mill with belting built for your job. To see him, just write to Goodyear, Akron, Ohio, or Los Angeles, California, and ask the G. T. M. to call.

THE GREATEST NAME IN RUBBER

GOODYEAR

TEXTILE BELTING

Torrington Company Doubles Floor Space.

The Torrington Company have announced that the new address of their Philadelphia office is 1640 Fairmont Avenue. Expansion in the bar straightening and re-needling facilities for full-fashioned machines necessitated the move, they state. At the new address they have double the floor space they had at their former offices.

This branch of The Torrington Company is the main office for re-needling of the machines with either needles or points. They also handle sales of latch and sewing machine needles for Philadelphia and the territory adjoining.

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New Properties Acquired .

Paper Makers Chemical Corporation of Kalamazoo, Michigan, announce having acquired the business and chemical processes and properties of the Georgia-Louisiana Corp., of Atlanta, Ga., and Marrero, Louisiana, and that operation in the future will be carried on under the name of the Paper Makers Chemical Corporation.

R. S. Perry, former president and general manager of the Georgia-Louisiana Corporation, has joined the staff of the Paper Makers Chemical Corporation and will be located at Kalamazoo, Mich.

The Atlanta plant in the future will be under the supervision of F. J. MacMullin. The sales of the Industrial Chemical Division will continue under the supervision of H. M. Thompson.

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Continuous Card Stripper.

Saco Lowell Shops, 147 Milk Street, Boston, Mass., is now distributing a catalog on their continuous card stripper, which is entitled "Continuous Card Stripper." The catalog gives a very thorough description of the stripper, together with the results of various tests made in prominent mills. A copy of the catalog will be sent to anyone making a request of the company.

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Style Show Held at North Carolina State College.

The North Carolina State College Textile School held its 12th annual textile exposition on April 16th, at which time more than 2000 people viewed the style show held by the school.

It was stated by Dr. Thomas Nelson, dean of the textile school, and other college and North Carolina mill officials that the exposition was the largest in the 31 years since the school was founded.

Seventy-one young ladies, representing several North Carolina colleges, took part in the style show. The dresses that were worn by them were made in the home economics departments of their respective schools, while the fabrics and designs represented the work of the State College textile students.

The main purpose of the show is to demonstrate the diversification of fabrics that can be made from cotton and rayon and cotton combinations. Then too, to show the practical nature of the work done by the students of the school.

The textile school was open for inspection during the exposition and a large number of mill men expressed their approval of the work that is being conducted by the school.

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The Black Book.

The new price book of L. Mundet & Son, New York, for cork pipes may be had by simply calling for the "Black Book."

The company states that in addition to giving the latest prices on cork pipe covering this new Black Book includes specifications for the installation of Mundet "Jointite" cork pipe covering under various conditions. A free copy will be sent to anyone interested.

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The Effect of Belt Tensions On the Cost of Belting.

Charles A. Schieren Company, 30 Ferry Street, New York, have announced the publication of a new pamphlet entitled, "The Effect of Belt Tensions on the Cost of Belting." They state this pamphlet gives a brief, non-technical summary of all factors entering into belt costs so that users may review basic factors that make leather belts less costly than other types of belting—all differences in purchase price notwithstanding.

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Square D Dead Front Switchboards.

The Square D Company of Detroit, Milwaukee and Peru, Ind., announces the publication of a new bulletin dealing with Square D dead front switchboards, which is of particular interest to architects, industrials, school officials, etc. It describes the two types of switchboards manufactured by the Square D Company—dead front with open back and dead front with enclosed rear, and includes architects' specifications and drawings.

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Steam Flow Measurement.

The Foxboro Company, Foxboro, Mass., have recently issued a handbook of steam flow measurement. It is the belief of the company that the hand-book contains data, tables and information that will prove invaluable to those engaged in this phase of work.

Encouraging Reports.

Reports received from cotton mills throughout the industry and from the Cotton-Textile Institute's field representatives indicate that 92 per cent of the mills which subscribed to the recommendation that night employment of women and minors be discontinued have already put this policy into effect. The Institute states that reports not yet received will probably show a substantial increase in this percentage.

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Fifty Years of Progress.

The Union Special Machine Co., Chicago, recently announced that fifty years of progress inspired them to make one of the monthly issues of their Sales Bulletin a special one in commemoration of the Fiftieth anniversary of their company. The special issue gave a chronological review of the introduction of the various types of machines, the personnel and structure of their present organization.

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Finishing Plant Sold by McCord.

The Montville Finishing Company, Montville, N. J., has been sold to the Patex Fibre Corporation. The sale comprised 28 acres of land, mill buildings, machinery and equipment. The broker in the sale was H. M. McCord, 100 East 42nd St., New York City.

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$10,000,000 Merger of Mills Announced.

The directors of 14 cotton mills in and around Gastonia, N. C., recently approved plans for a merger of their mills and granted their authority for the purchase of six other plants.

The name of the new concern, which is to be a $10,000,000 company and incorporate 300,000 spindles, is to be Textiles, Inc. This will give Gaston county the largest combed yarn manufacturing concern in the United States.

The mills included in the merger are: Arkray Mills, Inc., Gastonia; Arlington Cotton Mills, Gastonia; Cora Cotton Mills, King's Mountain; Elizabeth Mills, Inc., Charlotte; Gray Manufacturing Co., Gastonia; Merco Mills, Inc., Lincolnton; Mutual Cotton Mills, Gastonia.

Other mills of Gastonia were: Myers Mills, Inc.; Myrtle Mills, Inc.; Osceola Mills, Inc.; Seminole Cotton Mills; Victory Yarn Mills and Winget Yarn Mills; also, Priscilla Mills, Inc., of Ranlo.

The following men are to serve as directors of the merged concern: A. G. Myers; J. H. Separk; C. C. Armstrong; J. L. Gray; A. K. Winget; S. N. Boyce and R. G. Rankin.

COSTS CUT

BY USING H&B REPLACEMENT PARTS!

WE strongly urge that you use only H & B Replacement Parts in reconditioning your H & B Equipment. They promise lowest ultimate cost, reduce necessity for frequent repairs and keep equipment functioning at highest efficiency.

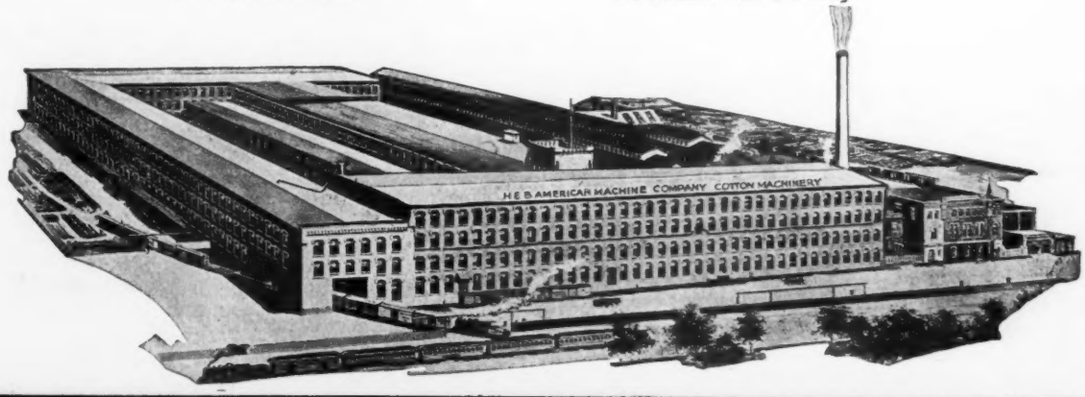
No round-the-corner shop or jack-of-all-trades can duplicate H & B parts. Our modern equipment, automatic machines, metallurgical specifications and standards of accuracy assure fit and continued trouble-free operation. When ALL costs are accurately figured, you will find H & B parts cheapest and best.

H & B AMERICAN MACHINE CO

PAWTUCKET, RHODE ISLAND

BOSTON OFFICE
161 Devonshire Street

ATLANTA OFFICE
815 Atlanta Trust Co. Bldg.



· USE ONLY H & B PARTS IN H & B EQUIPMENT ·

NOTES ABOUT MEN YOU KNOW OR KNOW ABOUT

Harold R. Turner has been made superintendent of the Dunean Mills, Greenville, S. C., succeeding E. A. Franks, resigned. Mr. Turner was formerly superintendent at the Watts Mills, Laurens, S. C., where he is being succeeded by R. L. Wood, who has been superintendent of the Whitmire (S. C.) plant of Aragon-Baldwin Cotton Mills.

Walter B. Dillard, Jr., has resigned as superintendent of the Riverdale Mills, Enoree, S. C. Lawton P. Duncan, superintendent of the Inman Mills, Inman, S. C., is also general superintendent at Riverdale.

Colonel Leroy Springs, one of the best known cotton manufacturers in the South, died at his home in Charlotte, N. C., on April 7 at the age of 69 years. He was president of the Lancaster (S. C.) Cotton Mills; the Eureka Mills, Chester, S. C.; the Kershaw (S. C.) Cotton Mills and the Fort Mill (S. C.) Mfg. Co. Colonel Springs began his career as a cotton manufacturer in 1896, when he founded the Lancaster Cotton Mills. Since that time his career has been a very colorful one, and it can only be with regret that any industry can review the passing of such a man.

L. M. Dunning has been advanced to sales representative of the Chicago office, and **Herbert A. Holmes** has been advanced to sales representative of the Pittsburgh office of The Reliance Electric & Engineering Co.

Parkman D. Howe, who has been associated with Merrimack Manufacturing Co. during the past five years, has become assistant treasurer of the Universal Winding Co. Mr. Howe has had a very extensive career, having been connected with both Lockwood Greene & Co. and Saco-Lowell Shops.

H. B. Nutting, formerly manager for Charles A. Schieren Co. in tne Carolina territory, has been made manager of the Pittsburgh office of the company. Stephen Fowler, who has represented Chas. A. Schieren Co. for many years, is taking over the territory formerly covered by Mr. Nutting.

R. W. Appleton has been appointed purchasing agent of the Morse Chain Co., Ithaca, N. Y., and Detroit. He was formerly director of purchases of the Pierce Arrow Motor Car Co.

W. A. Hamann recently brought a career of almost half a century to a close by retiring as chairman and director of the Roessler & Hasslacher Chemical Co., Inc., New York. Mr. Hamann's long service with the company was marked by the continuous and sturdy growth of the concern. He was very instrumental in its growth.

Henry Clay Graton, one of the founders of Graton & Knight Co., died on March 20, at the age of 100 years. For more than two thirds of a century Mr. Graton directed the policies of the Graton & Knight Company, constantly keeping before him the high ideals and straight forward commercial principles that he inherited from his ancestors.

James T. Wardlaw, who has been connected with the Charlotte and Spartanburg offices of Lockwood Greene Engineers, Inc., for the past several years, recently resigned to accept a position with Drayton Mills, Spartanburg, S. C. He will be associated with Ben W. Montgomery, president and treasurer, in the active management of the mill.

Arthur Ward, who was until recently superintendent of the Brandon Corp., Travelers Rest, S. C., is now connected with the Gossett chain of mills, Anderson, S. C.

A. Marshall Moseley, draftsman for the Hightower group of mills, Thomaston, Ga., Barnesville, and Griffin, Ga., has been promoted to chief technical engineer of the same mills. He is a graduate of the textile school of the Georgia School of Technology.

James Poplin is now overseer of the cloth room and finishing department of the Hannah Pickett Mill No. 1, Rockingham, N. C.

John C. Saunders has been elected president and general manager of the Bonham (Texas) Cotton Mills.

Louis J. Elsas, vice-president of the Fulton Bag & Cotton Mills, Atlanta, Ga., died suddenly on March 23 from complication that followed an appendicitis operation. Mr. Elsas was in his 52nd year. He was a man who will be sorely missed by all who knew him.

J. B. Woods has resigned as overseer of weaving at plant No. 2 of the Eureka Cotton Mills, Chester, S. C.

R. V. Alexander is now overseer of weaving at the Cartex Mill, Salisbury, N. C. He was formerly connected with the Inverness Mills, Winston-Salem, N. C.

Robert J. Adams, formerly night superintendent of the Hightower Mills, Thomaston, Ga., is now specification expert, and in charge of the order department of the Hightower Mills at Thomaston, Barnesville and Griffin, Ga.

P. B. Reading has accepted the position of overseer of the cloth room of the Cornelius (N. C.) Cotton Mill.

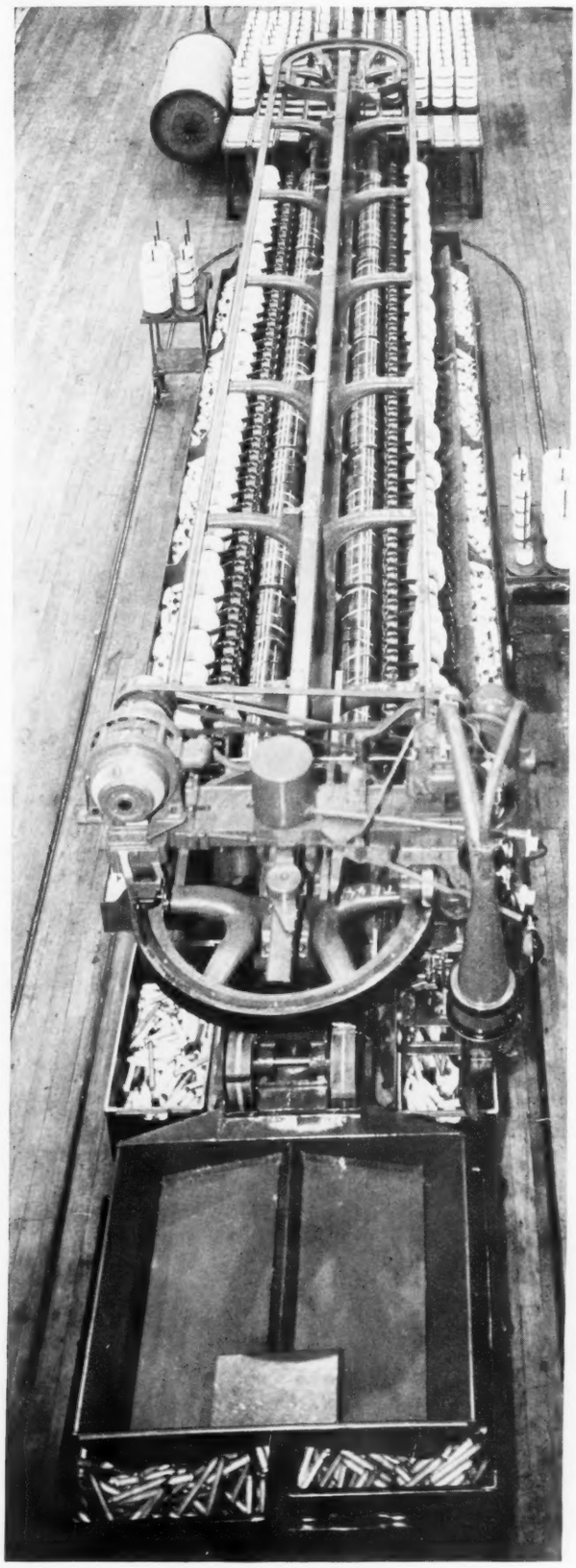
A. Fergusson Macintyre, formerly general manager of the Fitzgerald Cotton Mills, Fitzgerald, Ga., has been made manager and superintendent of Cartex Mills, Inc., Salisbury, N. C., which was recently organized to take over and operate the Vance Cotton Mills of that city.

Philip O. Schleussner, first vice president of the Roessler & Hasslacher Chemical Co., Inc., New York, died at his home in Stamford, Conn., on March 21. He had been an active figure in the drug and chemical industry for over 25 years.

Robert W. Van Tassel, mechanical superintendent of the Pepperell Mfg. Co. plant at Lindale, Ga., died suddenly at his home in Lindale on Thursday, March 26th. He was 60 years of age, and had been associated with the Lindale plant for almost 20 years of continuous service. Recognized as an able engineer, he was outstanding in southern industry for his ability and accomplishment. Many hundreds of friends, in two generations, have been saddened by the knowledge that "Van" has gone.

H. A. DuVillard has been made president of the Textile-Finishing Machinery Company, Providence, R. I., to succeed the late E. A. Rusden. Other new officers confirmed by the board of directors are: **C. F. Tillinghast,** vice-president and managing director; **W. A. Stelling,** vice-president and general works manager; and **E. C. Mowry,** secretary and treasurer.

W. H. Gibson, Jr., assistant general manager, Mansfield and Jennings Cotton Mills, Inc., Lumberton, N. C., has been elected vice-president and director of the Lumberton Rotary Club.



Looking at an Automatic Spooler from above. The grooved winding drums can be clearly seen, also the track on which the traveler is carried, the tracks for the trident trucks, and the trident transfer tables at the far end. Empty bobbins are discharged at the near end.

Automatic SPOOLER *reduces Loom Stops* ELEVEN TIMES *as much as High Speed Warper*

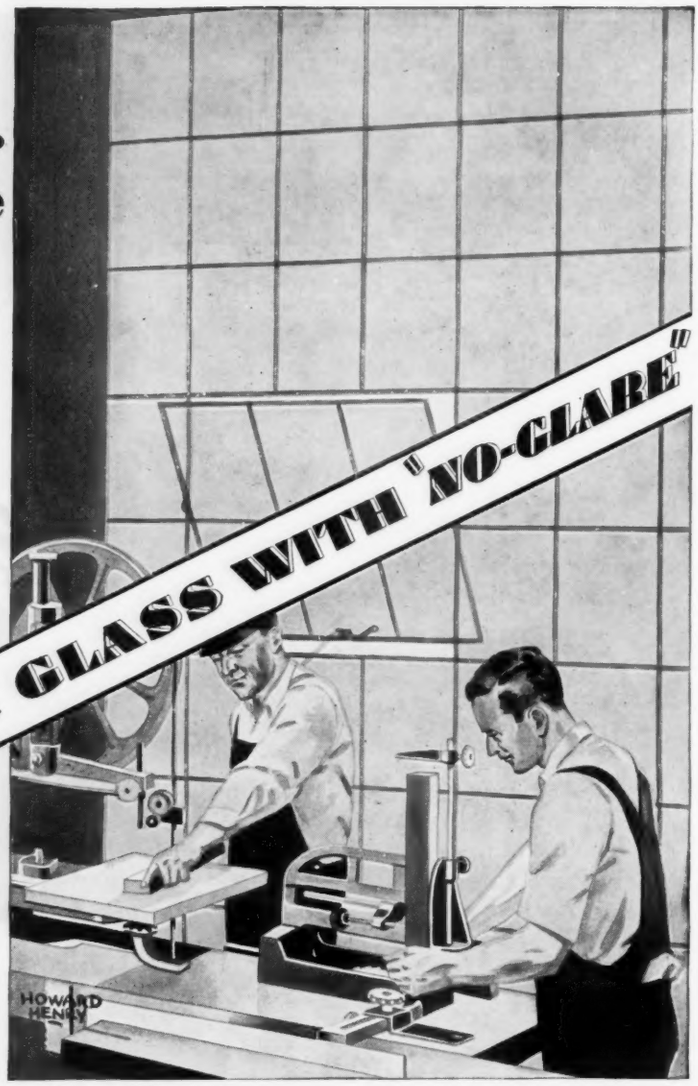
HIGH SPEED warping alone is no panacea for the ills of weaving. Loom stops cannot be materially reduced solely by the substitution of high speed winders and warpers for slow speed machines. Substitute *Automatic* Spoolers and High Speed Warpers for ordinary spoolers or winders and warpers and see the difference—loom stops are reduced more than 22%, and of this 22%, 92% can be traced to the Automatic Spooler and only 8% to the high speed warper—the proportion is better than 11 to 1. 189 weeks of actual weave room tests prove this. Detailed figures are given in the latest issue of "The Weaver's Knot". Let us send you a copy. Write to BARBER-COLMAN COMPANY, Rockford, Ill., Framingham, Mass., or Greenville, S. C.

How to . . . . eliminate

DAZZLING GLARE

without installing shades

JUST COAT YOUR GLASS WITH "NO-GLARE"



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Goes on *outside of glass*—yet rain or weather conditions do not affect **SKYCO No-Glare.** Neither will it rub or flake off. Yet you can remove it easily with warm water and a brush. *Just as effective if applied on inside of glass.*

Surprisingly Economical—A single gallon of **No-Glare** covers from 700 to 800 square feet of glass. One application lasts throughout sun-glare season. Absolutely guaranteed.

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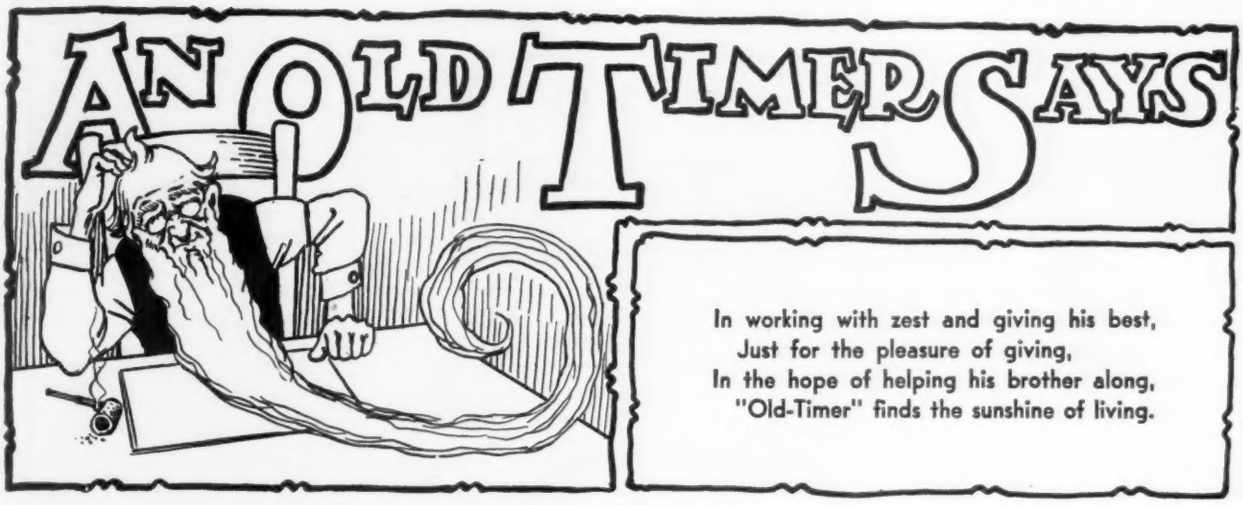
AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

The Most Wonderful Game in the World!

REMEMBER that game you played when you were a kid; how you would look forward to Saturday afternoon or Sunday or the day you would meet the gang, and what a hilarious good time you would have?

How well I remember how the crowd would gather at my father's house on Saturday afternoon for the game of marbles. There was an Indian Negro—that is, he was part Indian and part Negro—who could stand back and knock the middle man out more times in succession than any man I ever saw. And how his face would beam with delight as he would pick up his marble and walk back to taw. It seems strange to me now as I think back, to realize a man could reach such a high state of perfection as to be able to stand probably 12 to 15 feet from a marble which was not more than one-inch to one and a half-inch in diameter and shoot a smaller marble with the flip of his thumb and hit as small an object as that so many times in succession.

Marion—that was his name—was an artist at playing marbles. It was what he looked forward to for every Saturday afternoon and on rainy days. He talked about marbles all the week. He carried his pet marble in his pocket all the time.

I am just wondering how many overseers and superintendents get as much pleasure out of their games as Marion got out of his game of marbles.

So it is, with all games. Those of you who have studied ancient history—and if you have not, you should—know that as far back as history goes, men had their games; games which were played before their kings and queens. Men who could excel at those games were heroes, like Babe Ruth, Ty Cobb and Rockne in our present history.

Then there are other kinds of games where a man's physical fitness does not count for so much, but his skill, his nerve, his sensitive touch, his long experience in some particular line or the mastery of his brain—they are all games out of which men get their pleasure, their recreation and oftentimes their fortunes.

But it matters not what the game is, it gives the man his pleasure, his incentive to strive for a higher state of perfection in competition with his fellow man.

What is your game? How do you stand in competition with your associates or the people with whom you join in the game?

Because I do not know anything about fishing, it has always been more or less of a mystery to me how one man could catch more fish than another man who had the same kind of bait and was fishing out of the same "hole," as we call it.

But then, you see I am not supposed to know, because I have never had any experience fishing.

Now in hunting, I can understand better, because it is easy to see how one man can be so much better marksman than the other. Still, there is a lot to learn about hunting, even if you are a good marksman. For example, I once owned a good rifle and could hit the bull's eye on a target a reasonable number of times out of a certain number of shots. I could knock hickory nuts out of a tree, hang a weight on a string to hold the string steady and cut the string with a bullet, and could do several stunts like that, which gave me the "rep" of a fairly good rifle shot.

My father owned a farm about four miles from town and I went out to spend a few days. A family of negroes lived not far from the "big house" and it did not take me long to find out that there was a negro boy there who was about my own age. Of course I was anxious to "show off" before this negro boy, Bill.

He looked at my rifle with envious eyes and asked if I would let him shoot it just once, and I suggested that we find something to shoot at; something like a bear or a deer or an elephant, or what did he have in this part of the country anyway. (Four miles from town, with a 22-rifle, looking for elephants!) Of course you know my big talk was all an effort to let Bill know what a wonderful man I was. How strange human nature is! I have heard grown men, who were supposed to be sensible, talk just as foolishly about their jobs or the big things they had done as I talked to Bill about bears and elephants. Bill knew that I was bluffing and we all know when a man is bluffing or bragging, and the man who is doing the bragging

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IN **G D C DYESTUFFS**
IT IS THE **QUALITY**

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knows that the men he is talking to know it. Then why in heck — oh well, that's a freak of human nature, and you of course remember those OLD-TIMER articles on human nature, so let's get back to the story.

Bill says, "I can find a rabbit sittin' in his bed, I 'spect."

Now, that was fine. I could just picture myself coming back to the house with eight or ten big rabbits strung across my shoulder, and I knew darn well I could shoot his eye out if I could cut a string with a bullet.

Bill instructed me to walk along one side of the creek bank and he would take the other side. In about three-fourths of an hour I heard Bill say, "Sh! Sh! Here he is. Go back up the creek and cross over here."

Great Scott! How excited I was. I flew up the creek to where I thought I could jump across and made a lunge landing with one foot on the opposite bank and one in the water, but I did not mind that at all.

"There he is!"

I looked and looked. "Where, Bill?"

"Don't you see 'im sittin' right there? Can't you see his eye?"

But I could not see anything that even looked like a rabbit until he jumped up and ran. We didn't go but a few hundred yards until Bill motioned to me again.

"There he is, right close to that little bush."

Darned if I could see any rabbit until that one jumped up and ran.

Oh, that wonderful word, experience! If the young man starting in any vocation of life could only realize that there is no way to put a dollar and cents value on *Experience.*

Bill had the experience and I had the gun, but the blamed thing wasn't any good, because I could not see a rabbit even after he would find it and try to show it to me.

Very likely I would never have made a great hunter. It wasn't my game. Neither would I have made a successful fisherman; that wasn't my game either.

However, not many years after the rabbit hunt with Bill, it became necessary for me to find some kind of game that would bring in a little meat and bread.

It so happened that the game turned out to be weaving in a cotton mill.

I never had the opportunity to join in games like most other boys, but of course I had that natural-born instinct to want to play games.

Weaving was really my first game. At once, I liked it; I loved it. The mill stopped too blamed quick and started up too late to suit me. Gosh! How I did like to see those looms all going at the same time!

Then one day the overseer said to me: "Well, kid, if you keep it up, you are going to make a good weaver. I am going to give you two more looms on changing day."

Now talk about thrills! Boys, Babe Ruth never got a bigger thrill at seeing one sail over the fence than I did that day. Isn't it a wonderful feeling when you get a thrill like that; just feel like you could turn a mountain over or something.

Those of you who fish; those of you who hunt; those of you who play baseball; those of you who play cards or those of you who play golf—all of you know the pleasure you get out of achievement but a lot of you have failed to realize that *the most wonderful game in the world is*

Your Job!

Just why most all men look upon their jobs as a bore I am unable to explain, but I do know that is the cause of many, many men having to look for a job.

The trouble with most of us as overseers and superintendents, we do not realize what a wonderful job we have in comparison to many other vocations. We are always looking at the good side of the other fellow's job and the bad side of our own, not realizing that the other fellow is doing the very same darn thing; that is, looking at the good side of our job and the bad side of his.

Just compare your job, Mr. Overseer or Superintendent, with that of the doctor, the lawyer, the merchant, and a lot of others. You have regular hours, and not long ones at that as compared with theirs. At the end of a day's work you can go home to your family; jump in the flivver for a little spin and back home to the evening paper or a good book or magazine, and finally retire without the fear of being called until the whistle blows next morning.

Then Saturday you are off at noon with nothing to interfere with your pleasure until Monday morning.

Had you thought about it just that way?

Shucks, boys, we have got about the best jobs I know of. Then why in Tom Thumb don't we appreciate them more? Why don't we make them more of a pleasure than we do? Do you realize that an overseer or superintendent has more authority on his job than most any kind of job that you can mention? Yes, he has more individual authority than the President of the United Staates.

The President of the United States can't discharge a man without pulling the wires, so to speak, with a lot of other men.

What a pleasure it is for an overseer or superintendent to work his head; plan how to get more cooperation from his operatives; plan ways to increase his production; plan ways to cut his cost; plan ways to run his job for less cost of supplies and then see the fruits of his brain bring results and to know that he

IMPORTANT ANNOUNCEMENT!

(Reprinted from April Issue.)

Old-Timer Repeats Attractive Offer to Ambitious Readers.

IN an effort to be of more service to his readers, Old-Timer has secured a limited number of a very attractive and helpful souvenir which portrays the Old-Timer slogan. They will be presented free to those of his readers who will ask for them and who will agree to meet the requirements he has laid down in connection with them.

This offer applies to those readers who are eager to improve themselves, their work and their service to their employers. There is no "catch" in this. We know that the slogan will make you a better man, and put dollars in your pocket if you will conscientiously follow it. If you are interested, write to Old-Timer, care of COTTON, Grant Building, Atlanta, and ask for a souvenir of the Old-Timer Club.

Where Quality Counts.....

A quality material has never yet been produced profitably with poor quality equipment. This is especially true as regards your loom harness

Scientific Design
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plus
Super-smooth Polish
produces
the finest quality heddles obtainable for any fabric.

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New England Office:
44 Franklin St., Providence, R. I.
Foreign Offices:
Huddersfield, England — Shanghai, China

The Flat Steel Heddle

is going to get credit for it from his employer.

To be able to transfer your ideas to another man's brain and to see those ideas bring forth results is one of the greatest achievements a human being can accomplish.

No overseer or superintendent could run the job alone. Then it is your ability to transfer your ideas to the other man's brain in such a way that you will also get the benefit of *his* brain, his experience, his close contact with the job—his cooperation.

That is what brings success or failure to any overseer or superintendent. Many men have the knowledge, have the experience, etc., to achieve success, but they are so confounded egotistical; so afraid the mass under them will get a little credit for having some brains too that the men under them have no incentive to co-operate. Therefore, they are both just marking time. They are not getting anywhere. They are just grinding out the work without getting any pleasure out of it at all. There is no real substitute for *sincerity*. And remember, you can't fool your fellow man. Even an ignorant negro worker can tell whether you are really sincere or not. The man who pushes a wheelbarrow or runs a machine or a section for a living is entitled to a square deal the same as *your* boss is.

A new invention can put a lot of men out of work, but what kind of men are they?

The man who will conscientiously co-operate with both his superiors and subordinates; the man who will "run his job like it belongs to him;" the man who plays the game squarely—

Well. there hasn't been any kind of machine invented, or method discovered yet that will put him out of a job.

Come on fellows, join the OLD-TIMER CLUB. One of its objects is to help make you happy in your work. I say help, because you must do *your* part.

We want you to enjoy your work. We want you to realize what a good job you have in comparison to a lot of other vocations. We want you to find out what the word *co-operation* really means and then live up to it.

A good sport will play any game fairly; he gets a lot of pleasure out of just being square.

Give it serious thought, and we are confident you will agree with OLD-TIMER that *your* job is:

"The most wonderful game in the world."

Report of Raleigh Discussion

(Continued from page 648.)

three times each week. He said that they always weigh from a full creel when weighing their yarn. He brought out that they had not found it necessary to change a gear since last fall. When asked whether he made an allowance for regain, he stated that they had a standard to go by and that this was the same at all times.

Mr. Vick stated that as he had a rather open room it was necessary for him to make an allowance for damp or dry weather. He said they were on colored work and try to open as many as 200 bales at a time. He said that when a change in weather causes their numbers to be a little off that he does not go back to the drawing and speeders and change the draft, as he knows they will soon adjust themselves. Mr. Holt stated that they maintain a system for correcting for moisture by use of an instrument similar to a hygrometer. He said he felt they should have six per cent regain at all times, and that when the weather changed from wet to dry they allowed their laps to weigh more or less as the case happened to be in order to compensate for the moisture contents and give the same amount of cotton in each lap. He said they have to change very few gears and that they did not make any change where variation was encountered for one day. "In opening we try to blend our cotton according to the different localities in which the cotton was grown. We feed off of 12 bales." He said he gave their system to a man in Durham and that he went three weeks without changing a gear.

A member asked Mr. Holt if he made any allowance for regain when he changes weights on the slubbers. Mr. Holt said that after the work leaves the drawing the only place any action is taken for variation is at the spinning. He said they had variation in slubber roving all right, but that they always waited until the work got to the spinning to see how it came out there, and that if they had variation then they would go back and change drawing and speeder gears.

Mr. Garner stated that he had not changed a draft gear in spinning in two years. "My numbers run heavy at times, but they get right again when the weather changes," he said.

Mr. Mullen brought out that they keep a chart each day on all of their numbers and that whenever any variation is encountered these charts show it up. He stated that the charts are shown to the men and enable them to know at all times just what they were doing.

American Association Meeting.

(Continued from page 630.)

Marketing Act, and of the board's problems, and suggestions for its procedure, from the cotton manufacturers of the South.

As a part of the banquet program, Toastmaster Geer presented, among other specially invited guests, Ward Thoron, president of the National Association of Cotton Manufacturers, who took occasion to express rather strong objections to the policies of the Institute as regards the dissemination of statistics; and also to criticize severely the policy of urging the elimination of women from the mills at night for the purpose of securing curtailment. He further declared that any manufacturer who under-sold his competitors should "be ashamed of himself" and characterized such manufacturers as unworthy of communion in the circles of manufacturers' conventions. He was answered briefly by Mr. Sloan, as regards the night work subject.

The Saturday morning session concluded the convention. The reports of the secretary and committee chairmen, reflecting a year of unusually effective activity, were received, and officers elected, as reported.

Business NEEDS *Modern Accountancy*

To estimate correctly where it stands today; to vision clearly the demands of tomorrow, and prepare for them—Business needs *now*, more than ever, definite and dependable Facts and Figures. On them, Management will determine its best and most economical use of working capital, will place responsibility for production and sales costs and inventories, and prevent wastes.

The tools of Modern Accountancy are definite of purpose, sharp and sure. Its Budget alone gives management a plan for economic and orderly readjustment—a guard against harmful sacrifice. The Budget compels sane, constructive action, eliminates fear, inspires courage and generates through all departments a conviction of Reason and Right.

Not big business alone, but any business, all business, NEEDS *Modern Accountancy*. Its adaptability to every business situation and its creative dependability at all times make it a sure and economical necessity in the service of Better Business.

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HOW OTHER MEN MANAGE

Practical Discussions by Cotton's Readers On all varieties of Mill Subjects

Why Can't Two Cards Be Set the Same? Is Long Staple Harder to Card?

These may seem to be simple questions, but try to answer them and see if they don't make you think.

EDITOR COTTON:

I would like to ask the following questions in your "HOW OTHER MEN MANAGE" department.

1. Why is it that all cards cannot be set alike and to the same gauge from flats to cylinder?

2. Why is it that after cards have been ground for 10 to 15 years, there are high and low flats? That is, when the low flats are set to the proper gauge to card the cotton, the high flats rub and face; when the high flats are set properly, the low flats are so far away that they will not card properly.

3. What causes high flats and what can be done to make them uniform so that they can all be set to the proper gauge?

4. How often should cards be ground, running 1⅛-inch cotton—bearing in mind that we have only a breaker, intermediate and finisher picker, and that the cotton is not in ideal shape when it reaches the cards?

5. Is 1⅛-inch cotton harder to card than ⅞-inch cotton, and why?

CONTRIBUTOR NO. 4838.

"Cheap" Help is Usually Expensive.

Base your rates on quality production. It is false economy to figure you are saving with low rates, unless you are getting value received.

EDITOR COTTON:

What we all strive to secure in the adjustment of the wages paid to the cost per pound or per yard of the yarn or cloth, is that the per cent of the wage cost in the finished article will be as small as possible. I have found that in striving for that we also ought to take due notice, that with a low paid class of labor, that wage item appears as a larger percentage than if the rate paid to the individual worker is as high as we can pay for the work.

Some years ago with a mill that wove the same kind of goods year in and year out, the same numbers of yarn spun, and the same roving, there was an excellent system of the gross amount that each room in the plant should turn in for the weekly payroll. It was to be made out every week by every overseer, two copies to be handed in to the office with the payroll sheet. If the total varied even a cent from the prescribed, the so-called Deviation Sheet, had against the amount for each hand the figure in black ink, if exceeded, and, in red, if less.

This, for that plant, was excellent, and might be used even in one that the product was varied from time to time, but here is the peculiar fact that appeared from week to week: if any overseer had difficulty in securing enough of the lower paid labor to run his room, he divided the smaller jobs among the higher paid hands, accomplished the running of the room to our satisfaction, and always handed in a red ink deviation sheet. The question was "Why?", week after week, he teased the other men with the black ink sheets, and the not infrequent letter from the treasurer's office, to have them explain the reason that they exceeded the assignment for the work.

It so piqued my curiosity that I followed very closely the running of that room. Soon I discovered that the hand that was capable of earning the larger rate was worth for any of the smaller jobs almost as much again in money wages, if the matter of the time that he took for the job was the only consideration for the establishing of the rate. Again the way the work was accomplished was more direct, and more satisfactory when completed. This illustration has never been lost. In case after case I have found that the rate of pay that the hand received was actually less in the finished pound or yard, when the rate based on the quality of the work done was the highest. This fact has been used in all the plants where metal, rather than fiber, is the raw material, and supplemented by the so-called time study.

This is not possible where the material, as in cotton manufacture, varies with the season, the humidity of the air, and the heat of the room, but it can be used in the laying out of the labor required to cover the machines at the least expense, to produce the best quality and the largest continuous product. Do not think that it lends itself easily or surely to time study, as from the work with my hands during the war, I found that the job laborers had two speeds, one for themselves and one for the time-study men when they were on the job. Naturally, the latter was not the fastest, and the rate paid on the job improved after the test was applied.

To the textile man, the aim of low cost and competing cost, has meant success or failure. Do not let us neglect the decision of the question, not on the rate higher or lower paid, but on the work accomplished,

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WE invite our readers to make use of this department for the discussion of any and all problems arising in the mill or the finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

its quality, its quickness, its amount, and let the rate settle itself even if the highest and not the lowest.

This consideration of the item of wages in final cost is one that requires constant attention. It cannot be by either raising or lowering the rate that the cost be lowered necessarily by the latter. Often the higher rate or the raise in wages so-called produces the low point of the per cent of the wage paid in the final cost. Perhaps the way that you figure it out might be different from the one that I should use. But the problem is there for solution, and the same result—lower per cent—is the answer. This we have found follows in the detail of allotment of the work in any room to the hands employed. In laying out the arrangement of the carding, we have the pounds produced as a base, the type of machines to be used, numbers and make of each. This method to be used, whether the work is to be run through old machines now in position, or the whole room to be equipped with new styles and makes of machinery.

I have often discovered, on taking over another mill, that a careful examination of this arrangement of the help can be so modified, this job here being added to that hand there, that we were able to secure at the higher rates of pay, better work people, and still reduce the cost per pound of the stock run through.

The question of the movement of the stock in space and time over the floor in new installations, brings up another problem in placing of the machines so intimately connected with the reduction of number needed, and the amounts that can be paid to each. Sometimes in rooms full of old and well used machines, by the change in location of one or more of them, we have been able to secure a better hand, that has less walking to do, or less stock to move from one spot to another, that will make for more expeditious movement of the stock through the room.

One of the most successful of these changes in the placing of machines came from the tender that was moving cans of drawing back and forward. He said as I stood next to the slubber, "It does beat all, how many times these cans have been moved since the bell rang. I should think they would be worn out." That evening I went into the mill and made some measurements of the spaces that had to be covered in this moving of cans, and found that by altering the position of three of the slubbers, we could cut the walking almost in half, and after the change was made the next night, the overseer came to me and said that the tenders had asked, as long as one was leaving, if they could not have his machines added to their job.

Perhaps in this we are behind the metal trades and certainly the steady decrease in number of hands employed in these plants has been a revelation. Let us now take stock of our own organization, and with the principle of the largest possible amount to each employee in the weekly pay envelope as our end, give our rooms a thorough examination, and see what can be done in the old, as well as the new plant, to place ourselves in the same class as the new industries that have grown up during the last ten years.

Overloading the employee with too many machines may be fatal, but the careful arrangement of his work is possible, and will bring about the result sought, high production, good quality, and satisfied highly paid employes.

CONTRIBUTOR No. 4992.

Waste in the Cloth Room.

EDITOR COTTON:

I believe that there are quite a few people who, when they think of waste, think only of the waste made in the opening, picking, carding, etc., departments. They seem to feel that after the cloth is made, the evil of making waste is something that was only prevalent in some of the preceding processes. However, as some of us know, this is far from being the true situation. There are many, many operations after the cloth is made where it is possible for waste to be made.

First, we will take a look at the stitchers. If the stitcher is careless and unconcerned about his job he can cost the company much profit that would otherwise be realized. By lapping his ends too much when he starts to sew a seam, or where there has been a warp tied on in the weave room and he has to cut these knots off, by being careless it is possible for him to make considerable waste.

Going next to the brushers, if a break-out or a very wide thin place goes through the brushers they will get hung in the rollers and split the cloth. This will cause the cloth to have to be placed in the stack of seconds or rags.

On the calender head or rolling machine, if the man operating this machine does not stay with it at all times a slack selvage will pass through every now and then, and this will cause the cloth to run from one side to the other, thus becoming black and greasy.

If the calender man does not start the cloth tight on the rollers at the calenders, it will slip on the inspecting machine and the cloth will get black and greasy by rubbing the stands on which the beams run. If the inspecting hands are on the job as they should be they will see the mistake before the cloth gets black and have the cloth moved back to its right position on the roller.

The folder is the next place where profits can be destroyed. If a folder is measuring 36½ inches at a stroke, every time this folder measures two yards of cloth 1-inch of cloth has been given away. Where about 15,000 yards of cloth per day pass through folders it may be readily seen that such an error would run into a sizable figure during the course of a day.

A careless grader may easily prove very expensive for any mill. If a grader has a bad place come up in a cut of cloth, a place that should be cut out, and he fails to cut it out at the place where he should just because it doesn't happen to be the most convenient place to cut it, but cuts it at the most convenient place, then this man may cost the mill many dollars over a period of several months.

Even a stamper can, by allowing the stamper to hit on the same piece of cloth twice, cause considerable lots of cloth to be classed as seconds. Thus it may be seen that the fact that the cloth is in finished form does not mean that waste cannot still be made.

CONTRIBUTOR No. 5013.

More About Second Hands and Others.

Does a room need a second hand? What should be his duties, anyway?

EDITOR COTTON:

In the February issue of COTTON, "J. R. (GA.)" has a worthwhile article on "The Attitude of the Second Hand." Having been along the road of the second hand, I feel qualified to offer a few thoughts on the subject. The chief argument seems to be whether or not a second hand should "take anything for granted." Now if you will pardon a little wisecrack, I will tell you one thing he may be perfectly safe in "taking for granted." If he does not see that his orders are carried out, he may "take it for granted" that he is going to find himself in a mess some day, and he can not find any excuse to justify himself when his boss begins to let the sand fly.

I feel sure we are all agreed on the principle of the matter, but you know there are different ways of going about things. For instance, when I was second hand, and reported to a loom-fixer that a certain loom was making a stringy selvage, I did not forget about it; and after giving him ample time to fix the loom, I would pass by and have another look. If the selvage was still bad I would look the fixer up again and say, "I just passed by that loom again, and it is making that stringy selvage again." Note that I did not say "still making." I said "making *again*." Well, it never failed to work for me, and I think it is a lot better than to bawl a man out. You know I just don't like this bawling-out business. I had to take one or two that I did not think I had coming, and I still remember how it felt. So since I reached the part where I could do some bawling-out, I have tried to respect the other fellow's feelings. I guess I have got along all right at that, for I have never been run off for not getting my orders carried out. So I know there is a nice way to check up on your orders, and if you will use your head a little you can find it. And let me tell you another thing; if, when you find that your instructions have been carried out, you will go to the parties you instructed, and commend them on their promptness, or skill, or whatever it was they accomplished, you will benefit by it more so than you do when you have to go the second time to get an order executed.

I heard a superintendent say one time that the company paid him according to his ability to get his orders carried out and it did not take him all day to learn whether or not his orders were being carried out.

Now I am going to carry this second hand subject a step farther. Is it the duty of the second hand to run the overseer's job? I do not think so. A second hand is, or should be, an assistant to the overseer. A second hand is to look after things that an overseer cannot get around to. Then just how big does a job have to be before an overseer needs an assistant? I worked at a mill one time where they had three overseers and three second hands. Now they run with *two* overseers and *no* second hands. I visited this mill several months ago, and when I went in, one of the overseers was sitting at his desk reading a magazine. Fifteen minutes later, he was growling about having to run without a second hand. I guess if he had had a second hand, he would have been asleep instead of only reading a magazine.

Now I am not trying to make it hard for the second hand, or the overseer either; but now honest, do you really need that second hand? The second hand can run your job while you are out sick, or on your vacation, can't he? Then you, being his superior in experience, and intellect (?), are you not able to run the job without him?

If a job is large enough to carry a second hand, the second hand must have certain responsibilities, and I do not think they should overlap too much with the duties of the overseer. Somebody must have organizing abilities. To explain just what I mean by that let me relate an incident of a few years ago. I knew a shipping clerk who had to have help every so often, in loading, or storing cloth. There was a darkey working in the waste room, under the boss carder. It was the duty of this darkey to help with the cloth, but he was a "one boss darkey" and his boss had to tell him when to report to the shipping clerk. Now here is how the system worked. When the shipping clerk needed the darkey, he had to find the super, and the super had to find the boss carder, and the boss carder had to go out and tell the darkey. All this got the shipping clerk's goat, and so one day after he had managed to get some cloth loaded, after unnecessary delay, he went to the super and said something like this: "I spent twenty cents worth of my time looking for you, and then you spent twenty cents worth of your time looking for the carder, and about twenty cents worth of his time had elapsed before the darkey showed up to do a dime's worth of work—sixty cents spent, to get ten cents worth of work done."

The shipping clerk suggested re-organizing the system, and his suggestions were accepted. This loss had not been thought of before the shipping clerk showed it up. Now what I mean is to have the abilities of organizing your job so as to get the most work turned off with the least amount of effort.

But let me tell some more about this shipping clerk. A few months later, the management did not think about raising his salary two dollars per week to keep him from taking a similar job at another mill. Not much incentive to make suggestions, did you say? Wait, that shipping clerk is assistant superintendent at another mill now, and it has not been a great while since he saved his company—in twenty-four hours' time—more than his yearly salary amounted to. He was commended by the general manager. So you see he is getting next to the big boys now. So whatever your job may be—fixer, second hand or shipping clerk—stand right up to the plate and keep swinging and you will make a contact some day.

Now a little more about the checking-up business. I happen to know of an actual happening in a mill one time. In order to get out a special order, it was necessary to make a change on a certain machine. The super told the overseer, and the overseer told the second hand, and the second hand told the fixer, and the fixer forgot it. When the shipping clerk called for the material it had not been started. The super went up in the air. The second hand blamed the fixer, and

the overseer blamed the second hand, and the super blamed the overseer. Well, who was to blame anyway? Think it over. I have an idea that the management was holding the super responsible for the job. In this instance either one of three men could have saved the day by checking up on his orders. Needless to say that when the depression began to come along that this mill was one of the very first to shut down.

A second hand, or any one else, should be able to know from a general observation, whether or not his orders are being carried out. He should not go about creating a general feeling of uneasiness, or resentment among the help by appearing to be looking for something to eat somebody up about. "Checking up on orders." That doesn't sound any too good does it? Wonder if we could find some way out of it. Ah, I have it now, get right in on the job with co-operation and courteous leadership and keep things moving according to instruction. Don't give an order and then go off and play a Rip Van Winkle stunt and then come back and have to go over the job to see if your order has been carried out. That's worse than spending sixty cents to get ten cents worth of work done. In other words, if you will stick around a little it will not be necessary to go over and check up on orders.

An overseer should cover all the ground he can, and then if he cannot get over it all he can put on a second hand to cover the rest. But be careful not to have too much overlapping of duties or authority. If two or more mens' authority overlaps too much, it is hard to place the responsibilities on the right man. They all have a hand in anything good, and they all blame the other man for anything wrong.

JACK (TEXAS).

A Test on Wetting-Out Agents for Cotton.

A consultant reports a thorough test, interesting in connection with a recently published inquiry on this subject.

EDITOR COTTON:

In the January issue of COTTON I noticed a question from "CONTRIBUTOR NO. 4914" as to the best method for preparing cotton for dyeing in a Chattanooga vacuum raw stock machine, especially when dyeing sulphur colors. Specifically, he wanted to know whether or not it is better to use soda ash for boiling-off and wetting-out the cotton preparatory to dyeing, or should some of the prepared soaps sold under various names be used for this purpose instead of soda ash. He also asked, in case soda ash is recommended for the boiling-off process, whether it would be considered a good investment to use a soap or textile oil in connection with the dyeing process in order to get more level dyeing.

We have just made a test along this line and I would like to report our findings to you as of possible interest in connection with the discussion on this subject.

It is of course absolutely essential that the raw cotton be placed in the bowl as evenly as possible, in order to avoid channelling. It should then be thoroughly wet out with soda ash, or caustic soda, solu-

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tion and soluble oil at as near the boil as possible. This liquor may be run off, fresh hot water added to the machine, without rinsing the cotton, and the well reduced sulphur dyestuff added to the bath in portions, without salt. With certain sulphur dyes, a somewhat better penetration is obtained by replacing a part of the sodium sulphide with hydrosulphite, but this cannot be done in all cases. Sometimes the addition of a little sodium sulphite to the concentrated sulphur dye solution, before adding it to the dye bath, aids the penetration.

In connection with an investigation of the comparative value of some of the wetting-out agents in the dyeing of cotton's various forms and in different machines, we recently made a number of runs in a small Chattanooga raw stock dyeing machine. In this work we used five different wetting-out agents and a soluble oil. We also ran a blank test, dyed in the same manner as the others, but without any soap or other wetting-out agent in the dye bath. The dyeing experiments included direct, sulphur and vat dyestuffs, and as we were endeavoring to determine which assistant was of the greatest value as a leveling agent, and not to obtain even dyeings, we purposely selected dyestuffs of each class with known uneven dyeing characteristics. In comparing the results, the evenness of the shades dyed with only soluble oil were used as the basis of comparing the evenness of the color, and all other dyeings were compared with these.

In the case of the sulphur dyeings, we were rather surprised to find that none of the special wetting agents tested gave as level dyeings as the soluble oil. In fact, when used in this way, some of the commercial special wetting-out agents on the market were of very little value. This is probably at least in part due to the high alkalinity and other conditions to the sulphur dye bath. Several of the special wetting-out agents were almost as good as the soluble oil, but none of them gave any more level dyeings.

It is well known that the efficiency of many of the wetting-out agents varied widely with both the amount of wetting agent present and the alkalinity of the solution. In most cases there is an optimum concentration of the wetting-out agent and an optimum pH of the solution which give the greatest money-value wetting-out effect. Unfortunately, in practice it is not always possible to control the pH within the optimum range. It is possible that the reducing action of the sulphur and vat dye baths may also affect the efficiency of some of the wetting-out agents.

On the other hand, with the direct dyestuffs, using a slightly alkaline bath, several of the assistants were somewhat better than the soluble oil, when equal weights were used. However, on the basis of price, none of the results were any better than those obtained with soluble oil alone.

In the cases of vat dyes, where we again had a very alkaline bath, the results obtained with the sulphur dyes were repeated, and in no case did we obtain any better results with the commercial special agents than with the soluble oil alone. With one of the commercial wetting-out agents, the results were apparently no better than the tests made without any wetting-out assistant.

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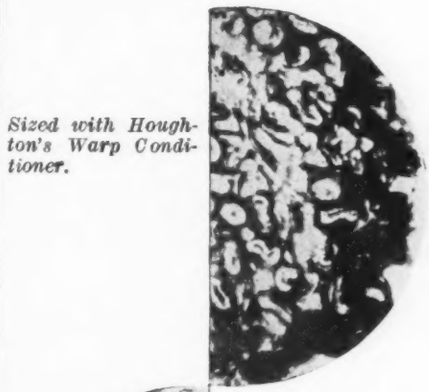

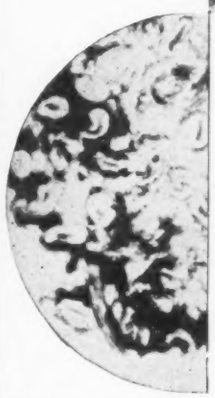

Sized with ordinary Prime Beef Tallow.

Never Before Such Penetration of Size in Cotton Yarn

Note how thoroughly the size has penetrated the yarn in the upper figure. That yarn was sized with Houghton's Warp Conditioner. Penetration was rapid, and the fibres are adequately coated with a secure film of size and lubricant which strengthens the yarn and eliminates flaking or dusting.

In the lower figure, the same yarn was sized with ordinary prime beef tallow under exactly the same conditions as the yarn above. Penetration was slow. The size film is only on the surface and does not bind the inner fibres. That yarn lacks strength!

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In view of the wide use of the wetting agents in many processes, and the very beneficial results obtained in most cases, these results were quite surprising and I can only explain them upon the basis of the high alkalinity and the presence of other reagents used in the sulphur and vat dye baths. Of course I do not give the names of the other wetting-out agents used in these experiments, for ethical reasons.

CONTRIBUTOR NO. 4964.

Controlling Bad Work from Card Room.

EDITOR COTTON:

In reply to the question asked by "CONTRIBUTOR NO. 4759" in a recent issue regarding methods of controlling bad work from the card room to the spinning room, I will endeavor to give my ideas or rather my methods of preventing such work. As for the trouble being such a problem, I cannot see it that way if strict supervision is practiced, together with a knowledge of the causes of such bad work.

Of course most of us slip up on the little things and this, to me at least, seems to be the trouble in our friend's department.

In case of black oil in the roving, I would first of all make sure that the card, drawing frame, or comber coilers were not given too much oil, and also that the card, drawing and slubber help always had clean hands when making piecings of slivers.

Too much grease or oil on rolls, especially in the summer, may cause black oil to show up in the roving. However in the latter case, we are most likely to get more roll laps instead. Usually the surplus oil is eliminated after the first lap or two, but we have sliver made oily as the result of oily hands. Oftentimes by a grinder, or by a card tender who fails to dry his hands before piecing up, or by a drawing tender putting too much oil on the rim of a coiler. We are likely to get quite a bit of oily work that will show up in the roving as a result of any of the foregoing causes.

Take the case of just a dirty splicing of sliver on the cards. The sliver must be drawn out or drafted considerably before it reaches the fine roving stage, and so is the dirty streak. And, of course, the finer the roving, the longer the streak will remain in it. It cannot be overlooked in white goods.

Sometimes we find speeder tenders and doffers, if not checked, will take any doffing box or truck, regardless of the inside condition of it. They will throw the roving in most any old way and later it is discovered that someone had been using that particular box for dirty waste and several bobbins of roving are badly messed up. Therefore, it would be advisable to have special boxes marked and kept aside for doffing only.

Careless oiling of spindle bolsters, with the result that oil gets on to the flyer pressers, will also cause oily work.

In regard to slugs, I believe our friend will find many of these are caused by allowing drawing, slubber and other speeder tenders to blow off their frames, especially the fine speeders.

Where there is no system of cleaning creels properly with a brush, it will be found that tenders will leave them dirty as long as possible because they feel that blowing them off once or twice a day with a piece of pasteboard will be sufficient. Whatever goes into the roving, just so long as no ends are broken down, does not concern them. Where fanning is done, I think a very close check should be made every now and then.

Section hands should be held responsible and required to prohibit all slip-shod methods of cleaning creels and they should see that all tenders are provided with light, soft hair hand brushes for cleaning creels, and that they are used for that purpose only.

Other forms of bad work from the roving frames, such as singlings, doublings and hard ends, as well as stretched roving, which is caused by a tender who likes to have his or her ends running tight, and for this reason manipulates the tension device at different periods, can be checked or controlled by having each tender mark their roving, each having different marks. Where night and day shifts are running, it is convenient to have one shift mark on top of the roving and the other shift on the bottom of it. Of course it should be ascertained that this is adhered to by both shifts. This would make it possible to return all bad work to those who made it.

I certainly hope that the foregoing will be of some help to "CONTRIBUTOR NO. 4759" in ridding himself of his difficulty.

D. E. (R. I.)

EDITOR COTTON:

I noticed in a recent issue where "CONTRIBUTOR NO. 4759" wants some method for controlling bad work in the card room and preventing this from going into the spinning.

With thirty-seven years experience in the card room, from sweeper to overseer, I am going to speak from my experience. Trained help is the first thing that a card room needs to make good work. There has been so much said about trained workers that we will not go into detail about how to train help.

It is a good thing to keep a record of each hand's bad work and have it placed on a board and kept in a public place near the speeder frames so every one can see their own, as well as the other hands' records. The foreman should then go to those with bad records and see if a little plain talk will do any good. He should also go to those with a good record and speak a few words of encouragement to let them know that their good work is appreciated.

I would suggest cleaning overhead pulleys at noon, or while the machinery is stopped. I believe less slugs and dirty waste will be found in the roving if each frame hand is supplied with a fan rag and required to fan off their frames every doff just as they are ready to slack the ends off. The coilers on draw frames should be cleaned by a competent hand as often as they become oily. All doff boxes should be kept clean and not allowed to be used for anything else. The frame hands should be required to pick off all black or dirty cotton that might stick to the

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However, the Bedaux principle is not a magic wand. It is a modern tool ready to the hand of the far-seeing executive. Dealing only with the human element in industry, its application requires no plant alterations, no new equipment.

A number of important textile mills are now reaping the benefits of this common-sense, human principle. Further details will be furnished on request.

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roving while cleaning. This would be very little trouble to them. Frame hands should be taught to let the side and not the end of the full bobbin hit first in the doff box. When the end of the bobbin strikes first, very often a small black place is made on the roving. A small air hose should be kept in a convenient place to blow out the empty bobbins occasionally.

The last thing I will suggest is to oil the raw stock in the opening room. This can be done very cheaply and it is the best thing that can be done for a card room. It keeps down dust and fly waste and will do more to bring about clean roving than anything else that can be done. It has proven very, very successful for me. CONTRIBUTOR No. 4850.

Discussions on Shrinking Cotton Goods

Some practical suggestions as to methods for pre-shrinking goods inexpensively at the mill.

EDITOR COTTON:

I noted the inquiry, published in your March issue, requesting discussion as to the most satisfactory and economical way of pre-shrinking 36-inch, 3.00-yard chambray.

On goods of this character, there is probably a *total* shrinkage (from the freshly-finished state to an inert condition following, say, three launderings) of around 12 per cent. Assuming this total of 12 per cent, it is not likely that at a mill, more than 7 out of this 12 per cent can be attained, but this proportion is generally accepted as satisfactory in the garment trades.

As to the method of pre-shrinking, inexpensively, the goods cannot be festooned or hung up for the drying, and no chemicals should be used. Here is my suggestion:

Put the goods in folds, and run them through a slack loop wetting-out machine, with a perch at the entering end, and squeeze rolls at the delivery end. Then dry the goods in a loosely-lying condition, with no strain or tension upon them. For this drying, there is the possibility of running two widths of the goods on the apron of a raw stock dryer, with a folder on the delivery side. I would suggest using a 35-foot dryer, with an 8-foot apron, which would permit drying the goods in double width, which at a speed of about 7 yards per minute would give a production of about 14 yards a minute, which might be brought up to 15 if desired. A multiple pass dryer could of course be used to secure a greater production than the raw stock dryer, but your contributor expressly specified that he wanted recommendations as to the most inexpensive way, and, I presume, for comparatively small production requirements.

CONTRIBUTOR No. 4982.

EDITOR COTTON:

In connection with the shrinking of cotton goods, brought up by one of your contributors, I should like to present a discussion of this subject.

The shrinking of cotton goods is one of the very few simple things to do, provided you are willing to go back to the primitive way in order to accomplish it.

Some years ago, I had some 18-ounce filter cloth to

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This new Du Pont fibre enlivens too many fields to be ignored. For profits' sake!... mill men, converters, knitters, retailers should know its fundamentals.

★ *It is a special filament.*

★ *Especially designed machinery produces it.*

★ *It is constant in denier.*

★ *It is uniform in length.*

★ *Du Pont is the only American maker.*

★ *Suited to fine count yarns.*

★ *For either cotton or worsted spinning.*

★ *Takes ordinary viscose rayon dyes.*

★ *Has the dullness of worsted.*

★ *It weaves evenly; dyes uniformly.*

In spite of its newness, seven of Fifth Avenue's biggest retailers are featuring it in ready-to-wear and yard goods. Its biggest consumption is in dress goods. Bath mats, rugs and plushes offer volume outlet. Knitwear producers (underwear, hosiery, and outerwear) are alive to its possibilities.

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Woonsocket, R. I.—Fine spun rayon staple yarns—plain, mixtures, specialties.

INDIAN ORCHARD CO.
40 East 34th St., New York City—High fancy and plain spun rayon staple yarns. Spirals, boucles, nubs.

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468 Fourth Ave., New York City—Fine spun rayon staple yarns spun on silk system—dupionni.

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New Bedford, Mass.—Fine spun rayon staple yarns and specialties.

MONTGOMERY COMPANY
468 Fourth Ave., New York City—Novelty spun rayon staple.

FIBER PRODUCTS CO.
10 Chestnut Street, Philadelphia, Pa.—Rayon staple yarns spun on worsted system for upholstery and dress goods.

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Pawtucket, R. I.—Fine single and ply spun rayon staple yarns.

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shrink so that the re-shrinkage would not amount to more than two per cent in length and one per cent in width.

After trying every conceivable way to do this shrinking on machines in the mill, without success, I found it necessary to use the simple way, and this was the method:

The cloth was immersed in boiling water in an open tank, and thoroughly saturated, then, without squeezing or extracting the water, the cloth was spread on the grass of the mill yard to dry. After drying, the cloth was folded and shipped without any further finishing. And we obtained the results required.

Cotton goods, to be properly shrunk, have only to be thoroughly (and I mean absolutely every fiber) saturated with water; either hot or cold, being careful to eliminate all tension possible in the drying process.

Treatment with caustic soda solutions will increase the shrinkage, and is generally used as follows:

Goods are wet with water in one tank for about 10 minutes and extracted; immersed in weak caustic solution for 10 minutes and extracted; and then rinsed in water and again extracted and dried.

To do this with a small sample by hand will give ideal shrinkage results, but large quantities mechanically handled would require a good deal of equipment and even then the additional shrinkage obtained would be lost in the added handling of the material.

A simple and practical outfit for shrinking can be easily made as follows: A stand for the cloth rolls; a large tank equipped at one end with a folding device for laying the cloth straight and wrinkle-less in the water, and, at the other end, a pair of squeeze rollers for extracting the water; and then a hot air dryer that would receive the wet cloth delivered by the squeeze rollers, and handle it without any tension. The speed of this machine should be about eight to ten yards per minute, the cloth being held submerged in the water at 120 degrees F. for approximately four to six minutes.

If the cloth is properly handled, that is, without tension, you could expect to get about six per cent shrinkage on this machine, and as there is a total of approximately eight per cent shrinkage to nearly all cotton goods, the two per cent left would equal the requirements of U. S. Government specifications.

In order to get this clearly in our minds, let us not confuse pre-shrunk fabrics, as produced at mills, with garment shrinkage, as practiced by all laundries. With pre-shrunk goods, the cloth is handled in the piece, and the selvage together with the size and general construction of the fabric tends to hinder any undue drawing up or shriveling; while the laundry handles the finished garment, which is made up of pieces of various shapes and sized and sewed together at all angles; and besides this, the garment is put through a mangle or washing machine where all sorts of chemicals and soaps are used in order to remove grease or dirt.

Pre-shrinking is simple, but producing unshrinkable cloth is a big undertaking.

CONTRIBUTOR No. 4952.

$770 SAVED EVERY 50 WEEKS

Some users of Termaco roving bobbin cleaning machines save more than others, but the saving of $770 every fifty weeks, reported by the Bradley Manufacturing Company of Columbus, Ga., is nothing unusual.

The Bradley Manufacturing Company, which makes colored weaving and knitting yarn, also reports that the Termaco re-works its roving waste and makes it possible to keep colors separate.

In order to obtain unbiased facts about Termaco machines in actual mill operation, reports have been obtained from executives of the Bradley Manufacturing Company and other representative users.

These case reports have been gathered into a "fact book" of particular interest to mills seeking to reduce operating costs.

Upon request, a copy of TERMACO FACTS will be sent entirely without obligation. As the edition is limited, please write today for your copy.

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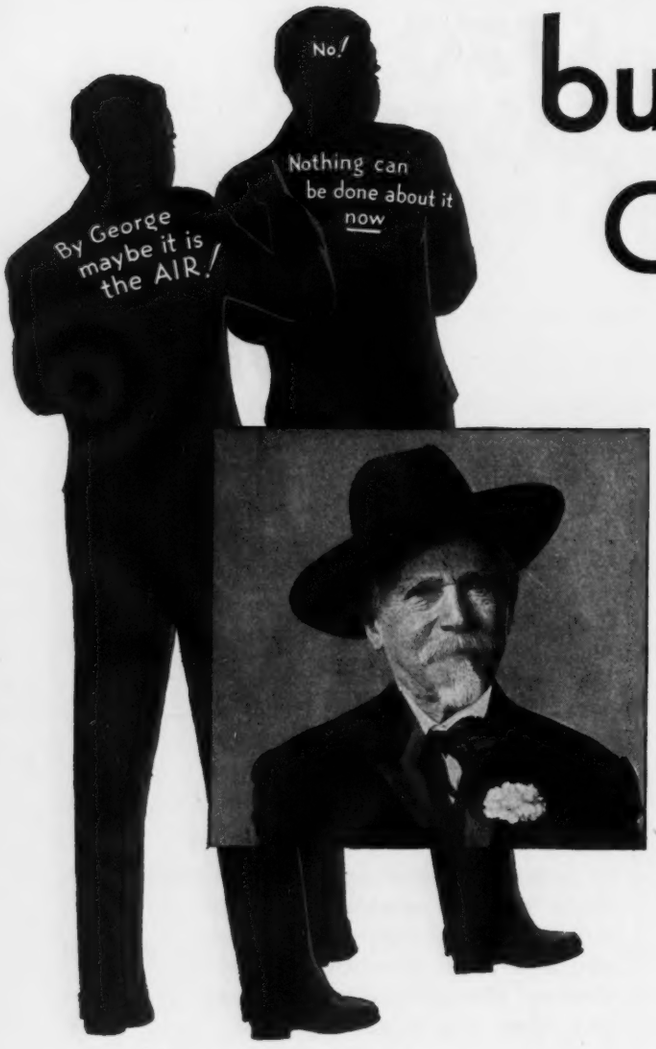

but—says Colonel Cotton

"I HAVE heard textile men remark 'we can't afford to do anything about humidity now with what the new machinery cost us.' I wonder what those men would say if a thief were each day taking dollars out of a new and recently purchased safe.

"And yet, akin to this, many mills are losing from $20. a day to $200. as is found by a textile engineer when he makes a tour through textile mills.

"Why and how this loss?

"Because the careful attention given to installation of new, modern textile machinery to increase quality and production has carried with it little or no thought to humidity which must be brought up-to-date in capacity to conform with the new manufacturing equipment.

"As a consequence—the desired and expected results are often lacking.

"I say a man should be careful not to become one-sided—too mechanically minded—or he will expect everything from his plant machinery instead of tracing production troubles to where they very often are—in the air."

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Warps Sticking to Slasher Cylinders.

Another discussion of this question. If you have any new ideas on it, send them in to us.

EDITOR COTTON:

I notice in the February issue of COTTON an inquiry from "CONTRIBUTOR No. 4944" as to probable causes of yarn sticking to slasher cylinders.

The sticking of yarn to the cylinders on slashers may be caused by any one of several conditions and is experienced more generally by mills using thick boiling starches for sizing, or by mills using a very heavy or concentrated thin boiling size.

Sticking may be caused by the poor condition of the blankets on the squeeze rolls, or the squeeze rolls may not be heavy enough to squeeze out the excess size, especially if the set being run is a heavy one. Sticking may also occur if there is an insufficient amount of tallow in the softening used.

As a remedy, I would suggest making sure that the squeeze rolls are heavy enough and that the blankets are in good condition. I would also recommend that there be at least eight pounds of tallow fat per 100 pounds of starch used in the softener. It will also be advisable to see that the slasher cylinder is thoroughly cleaned by brushing with soap and water.

CONTRIBUTOR No. 4988.

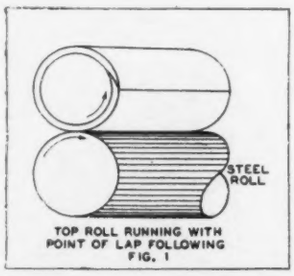
How to Put the Lap in Covering Rolls.

Do you agree that it is incorrect to put the dot in front of the point of the lap? Why?

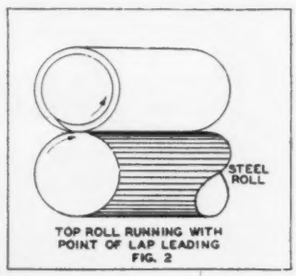
EDITOR COTTON:

In this department of the October issue we were invited by our friend "L. W. N. (N. C.)" to discuss, if possible, a very interesting little problem, namely, as to whether we mill men are putting our top rolls in the wrong way, or backwards, the latter being the term expressed by the gentleman in question.

Frankly, I think that by putting rolls in the spinning frame by the generally adopted method, as our



TOP ROLL RUNNING WITH POINT OF LAP FOLLOWING
FIG. 1



TOP ROLL RUNNING WITH POINT OF LAP LEADING
FIG. 2

friend describes in his diagrams, that is, by having the dot which the roll coverers put on the roll in front of the point of the lap is incorrect, because there is the ever-present tendency to split or open up the lap of the leather covering, and more especially when the speed of the top roll is retarded through any cause—a hard end for instance; and this is likely to happen when the end of the lap is in contact with the steel roll by which it is driven, as illustrated in Fig. 1.

Now if the same thing regarding the hard end occurs when the rolls are put in the opposite way to the general way as in Fig. 2, we do not have that tendency

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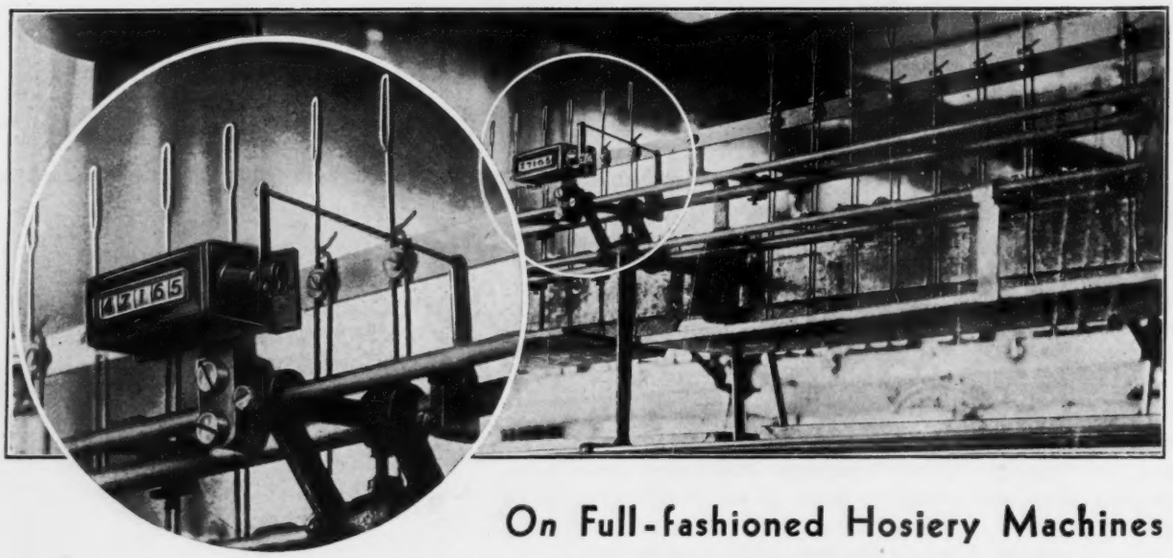

On Full-fashioned Hosiery Machines

Counting the Courses

Above:—VEEDER-ROOT large re-set Ratchet Counter, recording the number of courses made on Reading Knitting Machine. Counter attached to Snapper Bar (or may be attached to Slur Bar). Indicates to operative just when to make changes, to maintain uniform size and length of hose.

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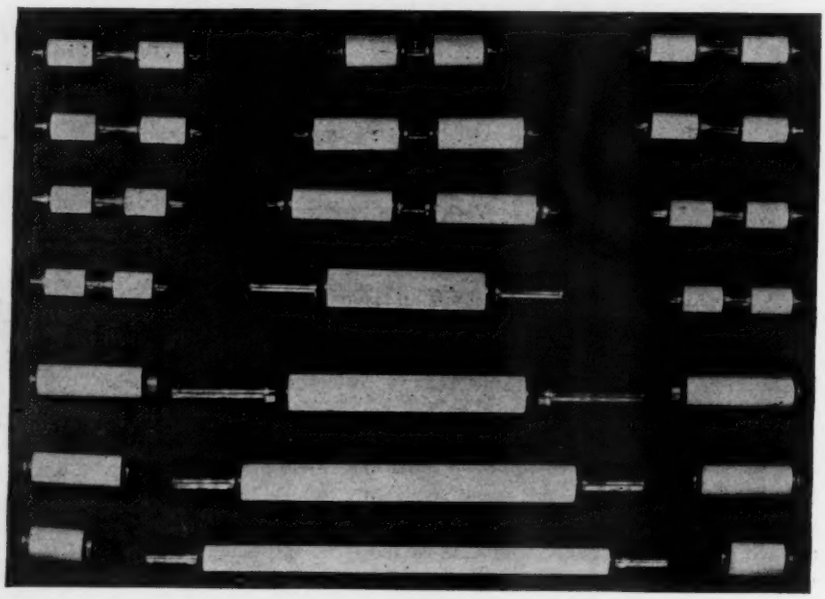

PHILADELPHIA FELT COMPANY
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of the steel roll to split the lap, but rather to bind it; hence, less danger by opposing the method which roll coverers advise by giving the dot or arrow mark as a guide.

It may be possible that a "kink" of this kind may result in some saving regarding roll covering expenses.

I believe the accompanying diagrams will explain what I have been trying to discuss in this interesting subject and I welcome any other views from our friends in this department or from other readers of COTTON. D. E. (R. I.)

"Wash" Discusses Roving Breaking Back.

"Wash" gives several reasons for roving breaking back in spinning frame creels.

EDITOR COTTON:

"Assuming that the spinning creels are level, and that the skewers and other points are all in good shape, what are the main causes of roving breaking back in the creels on spinning frames?" This question was asked by "CONTRIBUTOR No. 4775" in a recent issue of COTTON:

The major cause of this trouble is the weather, or rather atmospheric conditions. There is a great difference in roving made with a relative humidity of 80 per cent and that made with a relative humidity of 45 per cent. Of course most mill men know that the drier the atmosphere in which a strand is spun the more "oozy" it is, and under the proper glass will appear much larger than usual in diameter.

A bobbin of roving may leave the card room with the proper turns of twist for the stock to be run, but by the time spinning takes place, due to a dry sultry day and open windows, the condition of it might be quite different. The chances are the bobbin will expand and the coils become "oozy" and strained by the increased diameter of the bobbin. In such a case the spinner is helpless.

There can be no argument about the expansion of a bobbin of roving weakening the coils. It is easy to understand why this is so when it is remembered that a very slight increase in diameter means somewhat of an increase in circumference. Something must give way, and of course it will be the coils of the bobbins that are nearly full.

Our friend next said that he would like to have some suggestions as to how the causes can be remedied. I do not believe he is a practical man. He states, "In answering, please give the grade and staple of cotton used on the spinning frame, whether single or double, and the number of the yarn." If "CONTRIBUTOR No. 4775" was a practical man he would have put the question as follows: In answering please give the grade and staple, gauge of flyers, and twist per inch in the roving of each hank. What has single or double roving to do with the question?

He further states, "If anyone has the figures, on any yarn number or hank roving, I would like to have information as to the total number of ends down per thousand spindles per hour, and the percentage of these ends down caused from break backs in the creel." That does not sound very practical to me.

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TRIED and proven in hosiery mills, bleacheries and dyehouses, Charlite Textile Grade No. 1 is giing complete satisfaction to its users.

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Picture in your mind if you can, the roving breaking back in the creels and the boss spinner with his watch in his hand counting the number of break backs in one hour. Let the break backs go on, and get statistics, but statistics don't pay dividends. The best way to eliminate it is the easiest, too—just tell the carder to insert a tooth of twist. If the creels are level and the skewers and other points are in good shape there is no other remedy.

But how about the length of the traverse on the bobbins? The shorter the bobbins the nearer will be the creel rod, but a long bobbin makes it necessary for the creel rod to be further away and this enhances the chances of break backs.

Not having the proper taper on the roving bobbin will also cause break backs.

WASH (R. I.)

Suggested Lay-Outs for Combed Yarns.

EDITOR COTTON:

I noted the question of "CONTRIBUTOR No. 4963," who wanted some lay-outs for 40s made from 1-inch stock, and 50s and 60s made from 1⅛-inch stock, combed, warp twist. I will give below the lay-out he presented, and in a parallel column the lay-out I would suggest:

	His Lay-Out	My Lay-Out
Weight of lap	12½-ounce	10.5-ounce
Card sliver	44-grain	40-grain
Sliver lap	465-grain	425-grain
Ribbon lap	465-grain	425-grain
Comber sliver	48-grain	50-grain
First drawing	50-grain	55-grain
Second drawing	50-grain	60-grain
Slubber	.75-hank	.55-hank
Intermediate	2.00-hank	1.65-hank
Fine	6.25-hank	6.00-hank

Your contributor said his 6.25-hank roving was being drafted, double roving, on long draft spinning frames.

In regard to my lay-out, the 6.00-hank is used on the spinning frame. We use 1⅛-inch cotton.

This man asked also for figures as to the breaking strength in pounds, the per cent variation in breaking strength, and the per cent variation in yarn number on these yarns. Here are some sizings of ours on 40s, 50s, and 60s, warp twist:

Yarn	Average Size	Variation Size	Average Break	Variation Break
40s.....	39.12	3.45	53	1
	38.89	2.30	51	4
	40.32	3.56	51	7
	38.88	1.05	52	4
	38.77	1.83	55	5
	39.72	2.91	51	6
50s.....	47.64	2.27	44	4
	47.12	4.30	46	7
	47.79	1.03	48	6
	48.19	4.07	45	4
	49.41	5.67	45	3
	48.25	4.34	44	9
60s.....	59.89	1.79	32	4
	59.61	6.00	35	2
	61.36	1.89	32	6
	58.29	5.23	32	6
	60.27	2.91	35	2
	60.24	.73	32	3
	60.89	1.12	36	7

CONTRIBUTOR No. 4960.

"EYES" 2000 feet above

In an airplane you see many miles farther than you can aboard ship. That's not only another proof the earth is round—and the higher you go the farther you see over its curve. It is also proof that normal eyes see to any distance from which light can reach them. The "moral" is—naturally—that light *must reach* an object for you to see it.

But the *kind* of light (its color or wave-length composition) as well as the *amount* of light (its candle-power and diffusion) determines how sharply and clearly you see any object whose image is reflected by light to your eyes.

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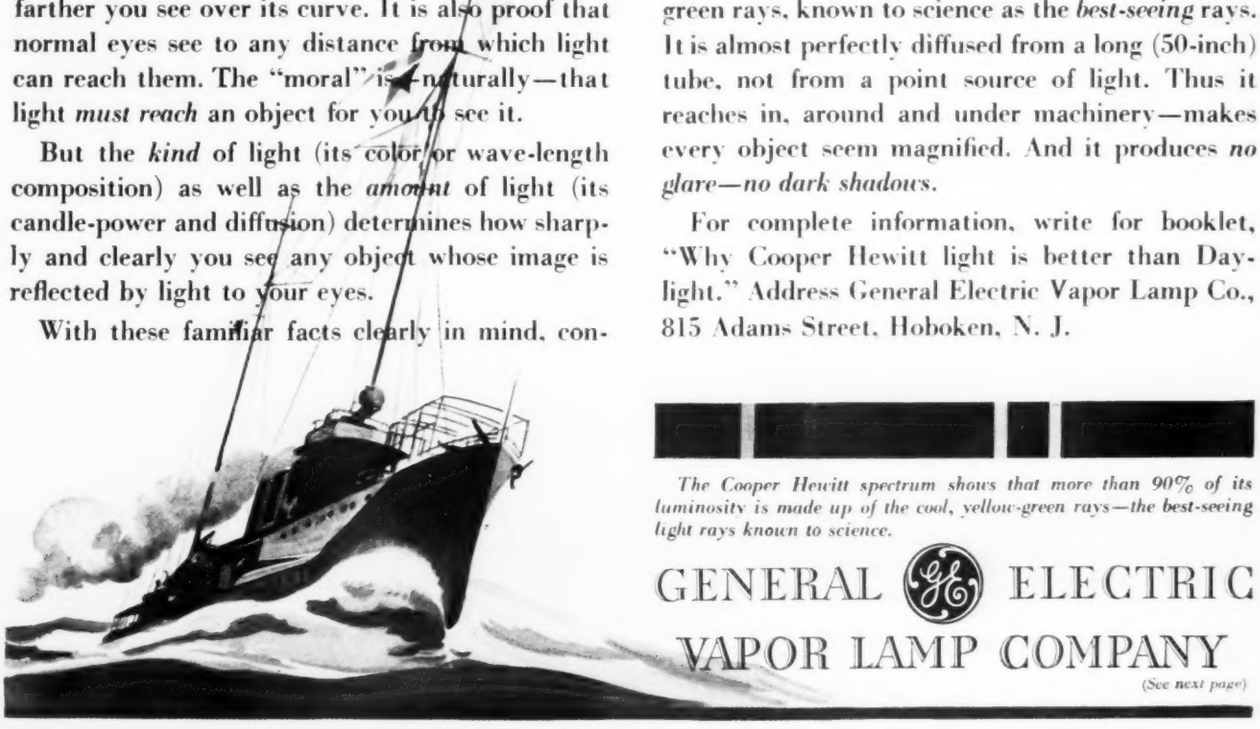

The Cooper Hewitt spectrum shows that more than 90% of its luminosity is made up of the cool, yellow-green rays—the best-seeing light rays known to science.

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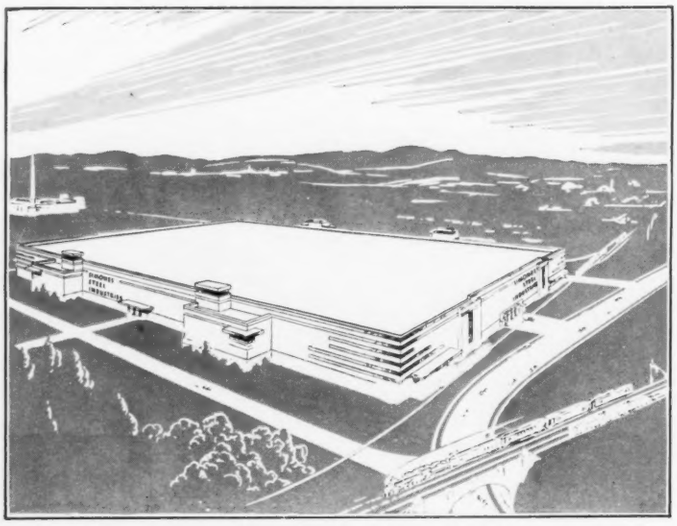
(See next page)

SIMONDS SAW AND STEEL COMPANY BEATS NATURE AT HER OWN GAME . .



This drawing appeared originally in the January 1931 issue of Popular Mechanics magazine and is reproduced here by permission.

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GENERAL ELECTRIC VAPOR LAMP COMPANY

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See preceding page

Card Settings on 7-8-Inch Cotton---20s Yarn.

Beats per inch on pickers also discussed. One man says they are secondary to the force or surface speed of the beater.

EDITOR COTTON:

I am replying to "CONTRIBUTOR NO. 4967," who says that he "would like to see some discussions in your columns as to the best card settings on 20s carded yarn made from 7/8-inch Middling cotton, with first consideration to breaking strength and second to cleanliness of yarn." He further adds that he is "carding 120 pounds per 10 hours and drafting 100 on the card."

In the discussion to follow, the cards on which I shall base my recommendations are carding 7/8-inch Middling cotton, 130 pounds per 10 hours, with a draft of 96.

I notice that the contributor asks that the settings be given with first consideration to breaking strength. It is my contention that this should be first in any event. It is the idea of some carders that the card is primarily a cleaning machine, but this is a mistaken idea, as most of the heavy cleaning should take place before the stock reaches the card. It is to be understood that all of my settings are given with breaking strength already having been considered first.

Your contributor uses a 12 gauge on the feed plate to the licker-in and I use a 15. However, there is little difference or discrimination to be noted here, as either setting is justifiable. But, I would not recommend closer than a 12. I might add here that the nose on the feed plate differs on some cards and that the setting on this plate is dependent on its particular type.

Your contributor has his mote knives at the bottom set to a 10 gauge, and the top set to a 7 gauge. It is my idea that this is too close if he keeps his breaking strength motive uppermost in mind. I use a 12 gauge at the top and a 10 gauge at the bottom.

I would recommend a 7 gauge for setting the licker-in to the cylinder rather than the 10 gauge suggested by your contributor, because I do not think his 10 gauge close enough to allow the cylinder to properly remove the fibers from the licker-in.

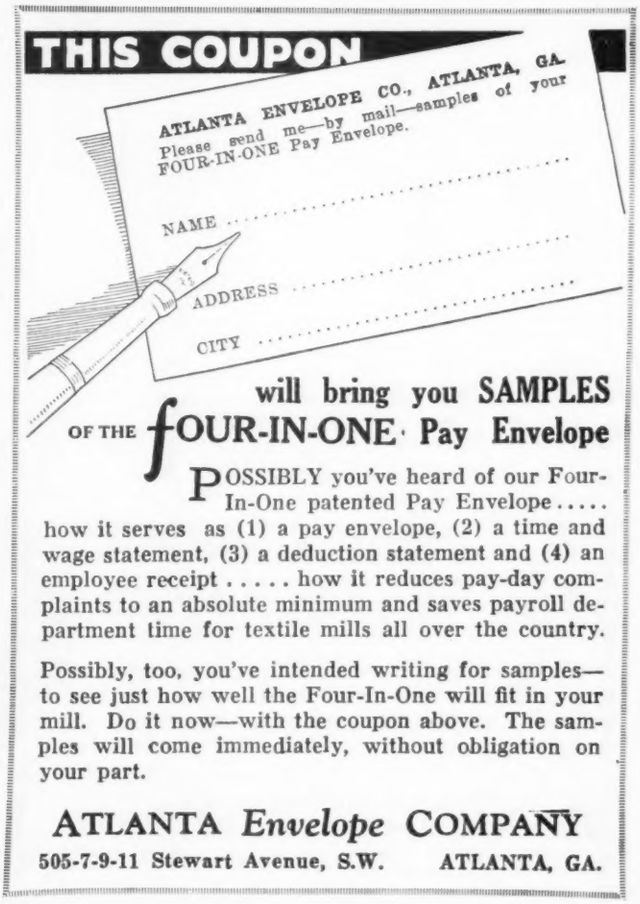
For the back plate to cylinder, I prefer a 22 gauge for both top and bottom, as against a 17 and 34, since this is merely a protective plate and keeps the fibers from flying off the cylinder.

My idea for the front plate to cylinder at the top is a 29, and at the bottom a 22.

Your correspondent suggests a 12 on the back flats to cylinder with a 10 on the center and front, but I prefer a 10 throughout. I would not recommend a 12 on the back except where the flexible bend has worn on the turn of the flats.

For the same reason that I suggested a 7 gauge on the licker-in to cylinder, I would also suggest a 7 on the doffer to the cylinder.

I think your correspondent is wrong in using a 34 gauge on the doffer comb to doffer. This is entirely too much, as there is danger of improper combing and thus allowing some of the fibers to pass around again on the doffer. I would advise a 17 gauge here.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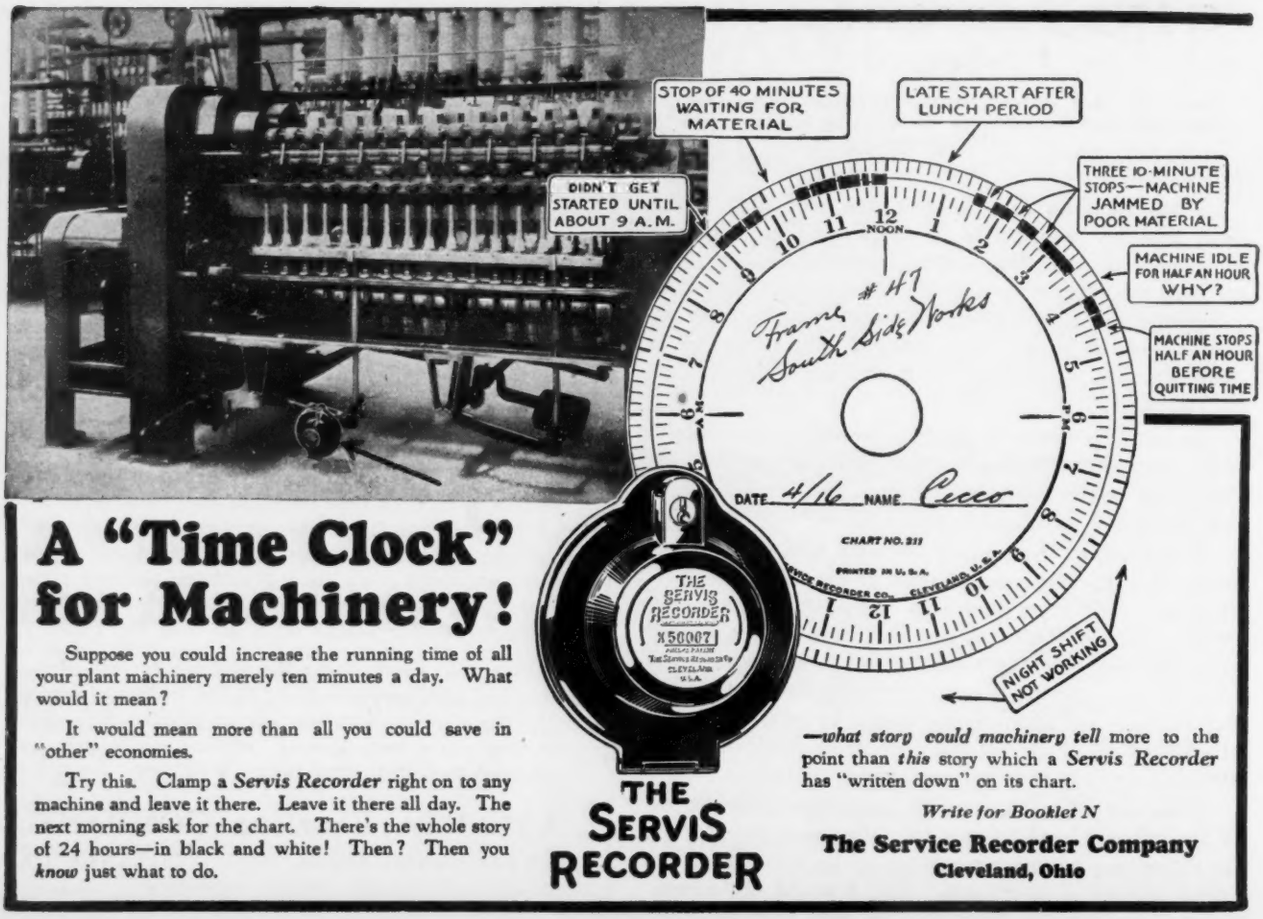
STOP OF 40 MINUTES WAITING FOR MATERIAL
LATE START AFTER LUNCH PERIOD
DIDN'T GET STARTED UNTIL ABOUT 9 A.M.
THREE 10-MINUTE STOPS—MACHINE JAMMED BY POOR MATERIAL
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His use of a 17 on the licker-in screen suits me very well.

If it is possible to make certain I recommend a 29 gauge on back cylinder screen, 29 on center and 3/16-inch on front. These are arbitrary figures as the cylinder screen is not as rigid as to assure absolute accuracy.

I may add here that all settings depend upon the condition of the bearings on the card and also on the condition of the floor. If there is much vibration in either, it might prove dangerous to use very close settings.

A summary of the settings of your contributor and my ideas are as follows:

	Contributor's	Recommended
Feed plate to licker-in	12	15
Mote knives, top	10	12
Mote knives, bottom	7	10
Licker-in to cylinder	10	7
Back plate to cylinder, top	17	22
Back plate to cylinder, bottom	34	22
Flats to cylinder, back	12	10
Flats to cylinder, center	10	10
Flats to cylinder, front	10	10
Front plate to cylinder, top	34	29
Front plate to cylinder, bottom	27	22
Doffer to cylinder	10	7
Doffer comb to doffer	34	17
Licker-in screen	17	17
Cylinder screen, back	34	29
Cylinder screen, center	34	29
Cylinder screen, front	3/16"	3/16"

Your correspondent also asks for some expression as to blows per inch on two-process pickers on this work. I have found that 30 blows per inch on the breaker and 68 blows per inch on the finisher have proven entirely satisfactory.

CONTRIBUTOR NO. 4975.

EDITOR COTTON:

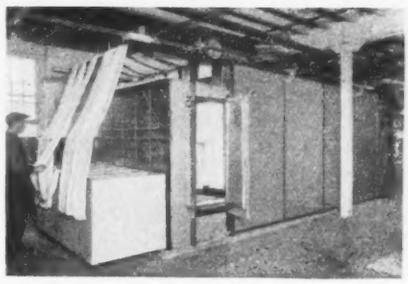
I note the question of "CONTRIBUTOR NO. 4967" with regard to settings for cards, when making 20s yarn from 7/8-inch Middling cotton, with first consideration to breaking strength and second to cleanliness of the yarn.

This man gave his settings, which you published on page 565 of the April issue of COTTON [also reproduced in answer above]. Taking them as a whole, I find they are very close in most respects to those I would suggest for this work. Local conditions vary requirements so much that in many respects it would be difficult to recommend from my own experience an exact schedule of settings that he or anyone else could apply without alteration. At the same time, there are one or two settings he gives which I believe are not the best, speaking generally.

One of these is the setting of doffer to cylinder, which he lists as a 10. There must be some local reason for his using a 10 here, as it seems to be rather wide. I imagine that his clothing must be in bad shape, or else it is not being properly ground, which would require a wider setting than otherwise. I think that if his local equipment conditions would permit, he would find it much more satisfactory to use from a 5 to a 7 at this point. The function of the doffer is to remove the cotton from the cylinder as quickly as possible; and the closer setting would also tend to prevent the cotton following around on the cylinder and forming a film on it.

The only other setting he has given which I would question, without knowing more of his conditions, is

DRYING



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Goods

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AUTOMATIC LOOP DRYERS: Rapid drying under ideal conditions—no tension—no direct contact with heated surfaces.

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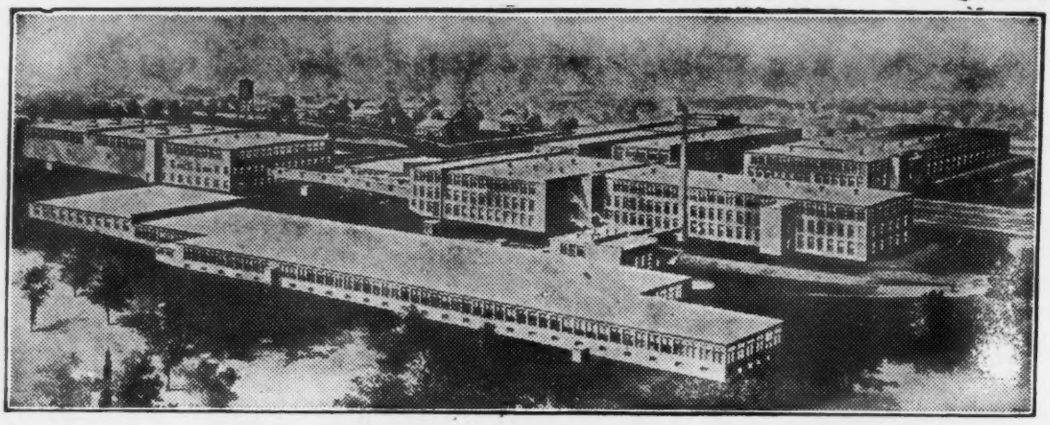

By virtue of an order of Honorable W. G. Cornett, Referee in Bankruptcy, the property of the Southern Manufacturing Company will be sold at auction on May 26, 1931, in the U. S. Court Room at Athens, Georgia, twelve o'clock noon, to the highest bidder for cash, all bids subject to confirmation by the Court.

THE PROPERTY is located at Athens, Georgia with frontage on main line of Seaboard Air Line Railway, between Atlanta, Georgia, and Richmond, Virginia.

ATHENS, GEORGIA, is situated in the Piedmont Plateau section of the southeast, at an elevation of 800 feet above sea level, and is in one of the healthiest sections of the United States.

EQUIPMENT: Comprises 96 Waste Cards, 66 Cotton Cards, 17,640 Ring Spindles, 10,365 Woolen Mule Spindles of type especially adapted and used for Spinning Waste, 4,320 Pease Ring Spindles, making total of 32,325 of Ring Mule and Pease Spinning equipment; also 1,664 Twister Spindles, and 674 Looms. Complete Sprinkler and Humidification System.

BUILDINGS: Four main buildings, Brick with Gravel Roof. Mills Nos. 1, 2, 3 and 4; also Slasher Room, Boiler Plant, Warehouses, Opening Room for Cotton for No. 2 Mill.

DWELLINGS: 110 Frame Dwellings, 2 Brick Tenements, 1 Frame Community House, 1 Frame Office Building.

PERSONAL PROPERTY: Supplies, fuel, waste for resale, raw stock, finished goods, nursery, automobiles, machinery held for re-sale, furniture and fixtures, trade marks, and trade names, and all other personal property.

VALUES: The National Appraisal Company in 1928 valued the property as follows:

Replacement value	$2,186,400.50
Depreciated value	1,740,977.60
Now carried on the books with due allowances made for depreciation	1,631,617.78

The above property will be sold free from and/or subject to liens, and to the highest bidder.

For further information apply to:

Erwin, Erwin & Nix,
Green & Michael,
Attorneys for Trustees,
Athens, Georgia.

A. G. Dudley,
Andrew C. Erwin,
R. O. Arnold,
Trustees in Bankruptcy,
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the 34 gauge which he uses in the setting of doffer comb to doffer. I really believe he would find a somewhat closer setting than this to be better.

Your correspondent also inquires as to "what are the correct blows per inch on two-process pickers on this same work."

In connection with this question, I should like to express the observation that, on the basis of our experience, the "blows per inch" given to cotton in beating processes is of secondary importance compared with the speed of the beater acting upon the cotton, or rather the *force* with which the beater strikes the cotton. I feel, therefore, that to use the "blows per inch" as a basis in figuring on the action of the picker beaters on cotton, is not adequate—and in making that statement, I realize that I am "rushing in where angels fear to tread," perhaps. I realize, further, that blows per inch must be taken into consideration in connection with beater speeds in order to remain within limits of safety in beating the cotton, and I do not advocate disposing of this factor entirely. I do feel, though, that to work up from the basis of the speed of the beater, or rather the surface speed of the beater in inches or feet, so long as we can stay within reasonable limits of safety and conform to the production requirements of our equipment, is more practical than to establish for ourselves a definite number of blows per inch and then alter the beater speed to conform to it.

To repeat the same thought in another way, it is of course the relation of the speed of the feed roll to the speed of the beater which determines the number of blows per inch given to the cotton. I do not mean that we should establish a certain beater speed and adjust the feed roll speed, regardless of our production requirements in order to secure a pre-determined number of blows per inch. What I do mean is that we have found there is a certain general surface speed in feet per minute for beaters which will give the most satisfactory results with the least injury to the fibers, and distributing them properly on the cages, and that with any required feed roll speed, we should endeavor to approach this ideal beater speed, and make blows per inch of secondary consideration.

In this connection, therefore, I will give what we have found to be, in round figures, the most satisfactory speeds for different sizes of beaters. In referring to beaters, I will include beaters in the opening equipment, and porcupine beaters in picking, as well as blade and carding beaters, as the same principle of the force with which the beater strikes the cotton applies to all of them, to obtain maximum cleaning with a minimum of harm to the staple.

First, on a 41-inch diameter beater, we find a speed of around 450 r.p.m. most satisfactory. This means a surface speed of $41 \times 3.1416 \times 450 \div 12$ (inches per foot) $=$ 4,830 feet per minute surface speed.

On other sizes of beaters, we recommend: 30-inch, 600 r.p.m.; 24-inch, 750 r.p.m.; and 18-inch (two-blade), 1,050 r.p.m.

Changing these figures into surface speed in feet per minute, it will be found that they all come within a general range of being about the same.

CONTRIBUTOR No. 4974.

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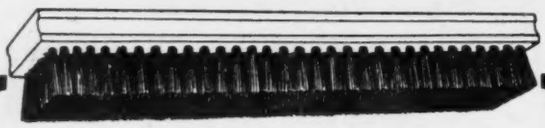

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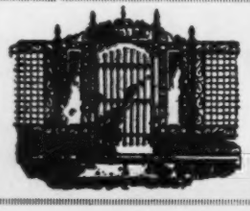

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PATENTS
PAUL B. EATON
Registered Patent Attorney, 1408-C, Johnston Bldg.
CHARLOTTE, NORTH CAROLINA
A former member of the Examining Corps
United States Patent Office
Also: McLACHLEN BLDG., WASHINGTON, D. C.

EDITOR COTTON:

This is in response to "CONTRIBUTOR No. 4967" who submitted his card settings on 20s carded yarn made from 7/8-inch Middling cotton, carding 120 pounds in 10 hours, with a card draft of 100. He asked for suggestions as to changes, with first consideration to breaking strength and second to cleanliness of yarn. For convenience and comparison, I will list here the settings he gave, and in the second column the settings we are using. We card 135 pounds in 10 hours.

	His Setting	Our Setting
Feed plate to licker-in	12	10
Mote knives, top	10	10
Mote knives, bottom	7	7
Licker-in to cylinder	10	6
Back plate to cylinder, top	17	
Back plate to cylinder, bottom	34	26
Flats to cylinder, back	12	11
Flats to cylinder, center	10	11
Flats to cylinder, front	10	11
Front plate to cylinder, top	34	26
Front plate to cylinder, bottom	27	34
Doffer to cylinder	10	6
Doffer comb to doffer	34	15
Licker-in screen	17	19
Cylinder screen, back	34	34
Cylinder screen, center	34	34
Cylinder screen, front	3/16"	1/8"

"CONTRIBUTOR No. 4967" is not very far away from the way we set our cards, but I believe if he will try a few cards on the changes we suggest it will help him.

He is, we think, a little too far off on the feed plate. Most machinery builders have the feed plates so designed that unless the licker-in runs against the feed plate there is no danger of hurting 7/8-inch cotton by setting too close.

He is also, we think, a little too far off on the licker-in to cylinder, at 10; if this is closed in a little I think the licker-in will deliver the cotton to the cylinder much better. The same thing applies to his cylinder and doffer; if the doffer is closed in a little it will, we think, make a much better looking web.

His flat settings are: back 12, center 10, and front 10. I believe he would do better work if he had them all set at 10, which I think he could do.

On the doffer comb, if this is working satisfactorily, at a 34 gauge, I see no reason to change it, but it seems a little too far off to me.

This man also asked as to the proper number of blows per inch on two-process pickers on this work. Here is what we are doing here with good results.

Our cotton first goes through a 30-inch cylinder running 490 r.p.m., at a speed of 158 inches per minute. It next goes through an 18-inch cylinder running 1,050 r.p.m. at a speed of 88 inches per minute.

It then goes through a two-blade beater running 1312 r.p.m. at a speed of 114 inches per minute getting about 23 beats or blows per inch.

We then take this lap to our finisher, which has a three-blade carding beater running 970 r.p.m., the cotton traveling through the feed roll at a rate of 53.5 inches per minute, which gives it about 54 beats or blows per inch by the carding beater.

In considering blows per inch one should keep in mind a reasonable production of a picker, for you could very easily keep within the blows per inch but still run the production so high as to get very poor work off of the picker.

CONTRIBUTOR No. 4969.

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TEXTILE BOOKLETS *Worth Writing For!*

The booklets or catalogs briefly mentioned below may be obtained by any reader of COTTON who will write to the Company issuing them or to COTTON, Grant Bldg., Atlanta, Ga.

1. **Cotton Picking, Carding and Spinning**—Covered by three different catalogs. Picking catalog covers Opening and Picking Machinery; Card Room catalog covers Cards, Combers and Roving Frames; Yarn Machinery catalog covers Spinning, Twisting, Spooling, Quilling and Reeling. By Whitin Machine Works, Whitinsville, Mass.

2. **Pepperell Equipment**—10 page illustrated booklet, showing High Speed Warping from cones as adopted by Pepperell Manufacturing Company after thorough experiments. Installation and product photographs. Issued by Universal Winding Company, Boston, Mass.

3. **Modern Practice in Textile Wet Finishing** (Slack Loop System)—Practical discussions, various methods bleaching, covering batch, semi-continuous, fully continuous for cotton, rayons and mixtures. Request must be on mill letterhead. By Rodney Hunt Machine Co., Orange, Mass.

4. **New Methods of Opening Cotton, also "Brown" Automatic Mixing and Cleaning Distributor**—Illustrated booklets showing advantages of Centrif-Air Cotton Cleaning System. Pamphlets also on better picking and carding and pneumatic trunk line cleaner. Issued by Centrif-Air Machine Company, Atlanta, Ga.

5. **The Bahnson Master Control**—Bulletin No. 801, 5 pages. Illustrated. Automatic device designed to control humidifying equipment so as to maintain a constant relative humidity. By the Bahnson Company, Winston-Salem, N. C.

7. **Tubes and Bobbins for Ring Spindles**—Nine-page booklet with useful information on the fit of tubes and bobbins, dimensions of tubes and rotation of the tube. By J. I. Bernits, Agents, Emil Adolff, 47-49 West St., New York City.

8. **"Textile Brushes"**—10 page booklet illustrating brushes for cleaning every part of mill. By Gastonia Brush Co., Gastonia, N. C.

9. **"Custom-Built" Motors**—Complete set of bulletins covering various types of electric motors for textile master mechanics and executives. By Louis Allis Company, Milwaukee, Wis.

10. **Leathers, Textile**—Booklet No. 101, 48 pages. Illustrated. Showing BONDARON Check Straps—Lug Straps—Harness Straps—Pickers—Belting, both round and flat, etc. Horsepower tables and other interesting information. By Charles Bond Company, 617 Arch Street, Philadelphia, Pa.

11. **Whitinsville Rings**—16 page illustrated booklet. Describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co., Whitinsville, Mass.

12-A—**Instruction Manual for Type K Bobbin Cleaner. Also Instruction Manual for Utsman Bobbin Cleaner**—two separate booklets describing adjustments of machines outlined, and also describing effect of bobbin shapes upon the cleaning process. These booklets intended for users of machines outlined. Applicants should designate which booklet is desired. By the Terrell Machine Company, Charlotte, N. C.

12-B—**Instruction Manual for the Termaco Roving Bobbin Cleaner**—booklet in four sections on adjustment of machine; on how to use machine to best advantage in reducing waste and saving labor; parts catalog; description of new attachments which can be applied to earlier models of the machine. By the Terrell Machine Company, Charlotte, N. C.

13-A—**Equipping Modern Textile Plants**—Booklet, 35 pages, illustrated. Describes value of Monel Metal equipment in textile plants and presents reports from mill owners and operators on actual experiences; equipment, descriptions, etc. Also **Dyed in the Truth**—Reprints of advertisements of special interest to textile dyers. International Nickel Company, Inc., 67 Wall Street, New York, N. Y.

15. **The Powers System of Thermostatic Control**—"Slasher Room is Bottle-Neck of Textile Mill." 18 page illustrated booklet showing importance of proper treatment of cloth in slasher room and advantages of Thermostat over hand control. Also room temperature control illustrations. Issued by Powers Regulator Co., 2739 Greenview Ave., Chicago, Ill.

17. **Arcy**—12 page booklet on getting most value from starch in warp sizing and cloth finishing. By Drake Corporation, Norfolk, Va.

18. **Popular Industrial Chemistry**—162-page handbook for dyers, chemists, finishers, purchasing agents. By Kali Manufacturing Company, 1404 No. Front St., Philadelphia, Pa.

19. **Quaker City Chemical Co.**—48-page booklet containing useful information, tables, formulae, on dyeing, bleaching and finishing all textiles. Issued by above company, 2736 North Broad Street, Philadelphia, Pa.

20. **Bleaching, Dyeing, Finishing and Printing Textile Goods**—70-page booklet containing interesting information on faults and methods in finishing goods, useful tables and definitions. By Bosson & Lane, Atlantic, Mass.

21. **Warp Sizing and Composition of Cotton**—Folder containing reprints of articles carried by textile publications of interest to progressive mill superintendents. By Seydel-Wooley Co., 748 Rice St., Atlanta, Ga.

22. **Tragasol and Its Uses**—Booklet, 60 pages, constituents and properties—Dissolving and preparation—sizing and dressing of yarns—cloth finishing—miscellaneous. By John P. Marston Co., 247 Atlantic Ave., Boston, Mass.

23. **Practice of Rayon Sizing in American Mills, Raygomm, Lakoe Gum**—Three booklets on products for sizing and finishing rayon and other textiles, presented by Stein Hall & Co., Inc., 285 Madison Ave., New York, N. Y.

24. **Wyandotte in the Textile Mill**—90-page booklet with information on bleaching, dyeing all textiles, including hosiery.—J. B. Ford Co., Wyandotte, Mich.

25. **"Lupogum" and "Monopole Oil"**—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

27. **The Seven Factors of Belting Economy**—Booklet, 112 pages, illustrated, containing authoritative information on the economical layout, care and operation of belt drives. Chas. A. Schieren Company, 33 Ferry Street, York, N. Y.

28. **Akron Belting**—Practical rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

29. **Continuous Card Stripper**—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

30. **Lubrication of Textile Machinery**—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York and New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

31—**Canvas Baskets and Trucks.** Doff boxes, trucks and for all textile uses. By Rockweave Mills, LaGrange, Ga.

32. **Flooring, Open Steel, Area Gratings and Steps**—Folder, 6 pages. Illustrated. For platforms, walks and stairs; non-slipping By Kerlow Steel Flooring Company, Jersey City, N. J.

38. **Sleaziness in Full Fashioned Knitting**—Illustrated survey with samples of fabric showing causes of sleaziness, and methods to be employed in eliminating it.—By Textile Machine Works, Reading, Pa. (This company also issues parts catalog for Reading full fashioned machine with general information on subject of full fashioned knitting.)

39. **Trend of Sales of Silk, Rayon and Cotton in the Piece Goods Departments**; twenty-four-page booklet; prepared by DuPont Rayon Company in conjunction with National Retail Dry Goods Association. Copy furnished without charge by either of above. DuPont Rayon Co., 2 Park Ave., New York, N. Y.

41. **Budget Control**—40-page booklet showing how each part of business budget should be prepared and principles of its effective operation together with a summary of benefits.—by Ernst & Ernst, accountants, 27 Cedar Street, New York, N. Y. (This company also has available booklets on **Standard Costs, Business Control Through Analysis, The Better Wage, Factors to Consider in Working Out Mergers.**)

42. **Textiles and the Telephone Typewriter**—6 page booklet on telephone typewriter service for communication between mills and selling houses. By American Tel. and Tel. Co., Long Lines Department, Atlanta, Ga.

43. **Pornitz Vacuum Bleaching Apparatus**—showing the many advantages of this system for bleaching, including the saving of time, saving in chemicals, saving in the transport of material from one apparatus to another, etc. H. H. Leonard, 475 Fifth Ave., New York, N. Y

44. **Points of Interest in and Around Atlanta**—36 pages. Illustrated, describing places of scenic and historic interest in Atlanta in particular, and the Southeast in general. Atlanta Biltmore Hotel, West Peachtree, Fifth, Sixth & Cypress Sts., Atlanta, Ga.

45. **Fidelity Universal Ribbers**—a forty-eight page booklet showing the advantages and many styles of ribbed fabric and describing in detail and illustrating the latest developments in ribbers. Sent free on request by Fidelity Machine Co., 3908 Frankford Ave., Philadelphia, Pa.

46. **Mundet's New Black Book**—Including specifications for the installation of cork pipe covering under various conditions, telling how thick the insulation should be, listing the sundries that are needed with cork pipe covering—showing what to do when pipes are close together, explaining how to order, prices, etc. Copy sent free to anyone interested in cork pipe insulation. L. Mundet and Son, Inc., 461 Eighth Avenue, New York, N. Y.

47 **The New Hartmann Spinning Process for Cotton Yarns**—showing how with the Hartmann Ring Spinning Frame with combined drafting, it is possible to produce finished yarns in one operation direct from the untwisted sliver of the drawing frame. H. H. Leonard, 475 Fifth Ave., New York, N. Y.

48. **Steel Flooring and Floor Armoring**—a 24-page booklet showing the many uses and advantages of steel flooring for flooring safety steps, power platforms, coal bunker gratings, fire escapes, steel tower platforms, etc. Kerlow Steel Flooring Co., 218 Culver Ave., Jersey City, N. J.

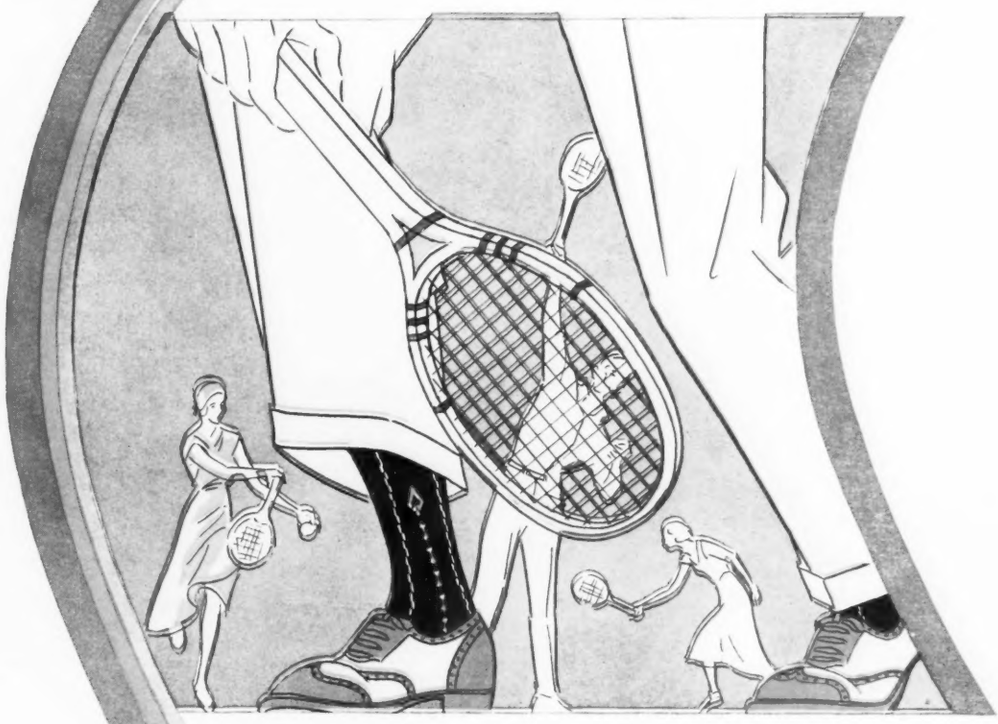
49. **Pornitz Hosiery Dyeing Machines**—giving details of machine, its many advantages and showing typical installations. H. H. Leonard, 475 Fifth Ave., New York, N. Y.

50. **The Effect of Belt Tensions on the Cost of Belting**—a 12-page booklet, giving a non-technical explanation of belt tensions, the coefficient of friction of various kinds of belts, the effect of belt tension on belt costs, and the proper care of belting to assure long life and low costs. Sent free on request. Chas. A. Schieren Co., 30 Ferry St, New York, N Y.

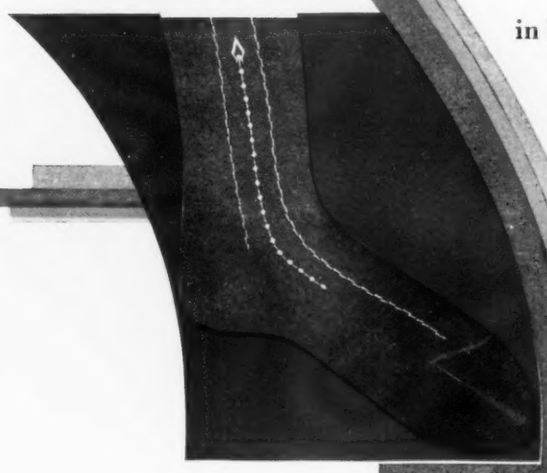
51. **Pornitz Vacuum Steaming and Conditioning Machines**—for fixing the twist in the yarn and restoring to the material the natural degree of moisture which has been lost during the spinning process H. H. Leonard, 475 Fifth Ave., New York, N. Y.

52 **The Lincoln Twin Disc Floor Machine**—showing the many advantages of clean, sanitary floors, the saving in time and labor through using floor cleaning machines and describing in detail the various models of Lincoln floor machines. Lincoln-Schlueter Floor Machinery Co., 213 W. Grand Ave., Chicago, Ill.

Knitting Section



"E S", the new Scott & Williams embroidered stripe machine . . . has everything in its favor for the manufacture of fancy hose. It produces 18 step designs in 18 colors...wrap pattern...with any yarns; and it has the added feature of the exclusive Gussetoe.



The "Gussetoe" ...the smooth, fitted foot... with no seam or ridge.

Established 1865

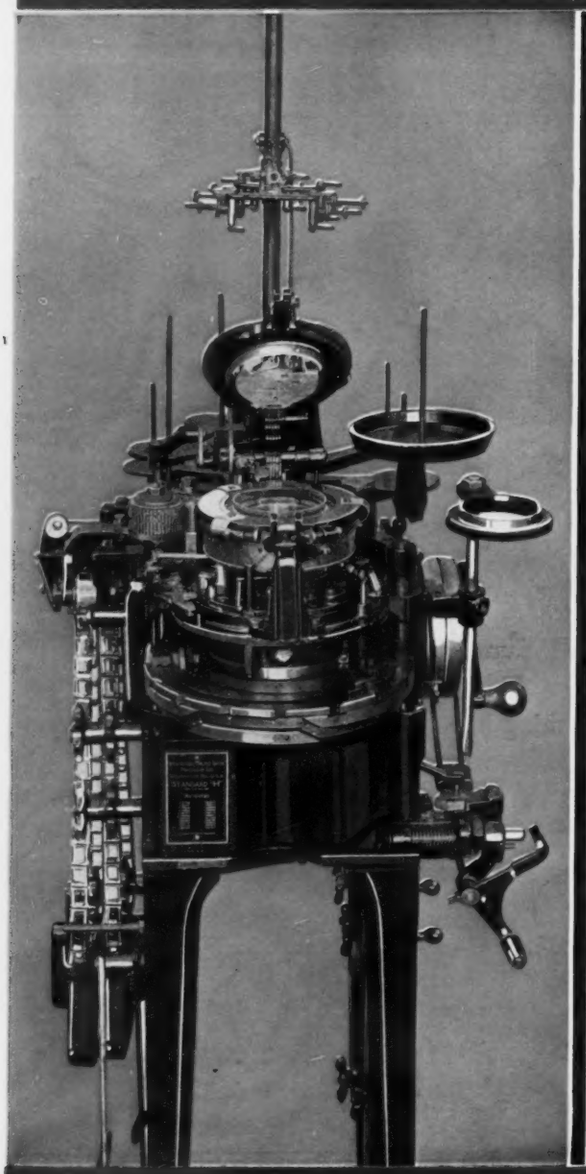
SCOTT & WILLIAMS

INCORPORATED

366 Broadway,
New York, N. Y.

FOR BETTER FANCY HOSE

Model H



Half hose, Golf hose, Misses' hose, Infants' hose—the Standard Model "H" machine.

Half hose in reverse, two-feed reverse and combination reverse plated patterns, spiral and three-color patterns, combination reverse plated and wrap pattern clocks.

Golf hose in reverse plated and spiral patterns in three colors.

Misses' hose in reverse plated and wrap clock patterns.

Infants' hose . . . six color horizontal stripes, on fine gauge anklets.

MODEL L . . . an individual needle, embroidered wrap machine for golf and half hose . . . always good, and now with new attachments, better than ever!

KOMET MACHINE . . . for half and golf hose in fine broad rib. The Bentley Engineering Company in Leicester, England, builds these machines. We represent them in this country.

STANDARD TRUMP

STANDARD-TRUMP BROS. MACHINE CO.
INCORPORATED
366 BROADWAY
NEW YORK, N. Y.

Frank Discussions at Philadelphia

William Meyer heads association; McCullaugh resigns as active head; knitting exposition of broad interest, draws representative crowds.

AN UNUSUAL amount of activity and usefulness to the knitting industry was compressed into the five days of Knitting Week at Philadelphia, from April 13th to 17th inclusive. In many directions there were major activities and developments.

Most outstanding in prominence was the 27th annual Knitting Arts Exhibition, holding forth during the entire week, at which the usual comprehensive display and exhibition of knitting machinery, supplies, accessories, etc., pertaining to knitgoods manufacture formed the nucleus for the week's activities and itself represented the main occasion. While the number of exhibits at the show decreased slightly from last year's representation, still the show can be considered a success from the standpoint of concentrated and serious interest displayed by those attending in regard to new developments and processes. While no full-fashioned equipment was on exhibition in operation, the leading manufacturers of this machinery maintained suitable reception spaces where visitors discussed new developments. Among these, and perhaps of most general interest, was the single-unit machine, products of which were on display in several booths, in many different patterns and designs. The seamless and underwear machine manufacturers were represented by operating exhibits of machines embodying latest developments in these fields of knitting; and there was, as usual, an extensive list of complementary equipment, supplies, services, etc. An expected decrease in attendance was noted, but numbers of exhibitors commented upon the "quality" of those mill men who did attend, stating that those present during the week displayed an intensified and worth-while interest in the products on exhibit.

John Wyckoff Mettler, who retired after three years as president.

Meetings of the National Association of Hosiery and Underwear Manufacturers; the National Knitted Outerwear Association, the Full Fashioned Hosiery Manufacturers of America, and the Durene Association of America, were held during the week.

This was the first meeting of the outerwear organization in conjunction with the show. The association met on Tuesday, April 14th, and the meeting was featured by addresses on distribution, quality, price and other problems, by Dr. Julius Klein, assistant secretary of commerce, Daniel Rheinauer, who was reelected president of the association, and others. At the meeting of the full-fashioned organization, Samuel F. Rubin, of the Merit Hosiery Co., Brooklyn, was elected president, succeeding S. E. Summerfield, president of Gotham Silk Hosiery Company. Joseph H. Haines, Jr., of the Haines Hosiery Mills, Philadelphia, continues as executive secretary.

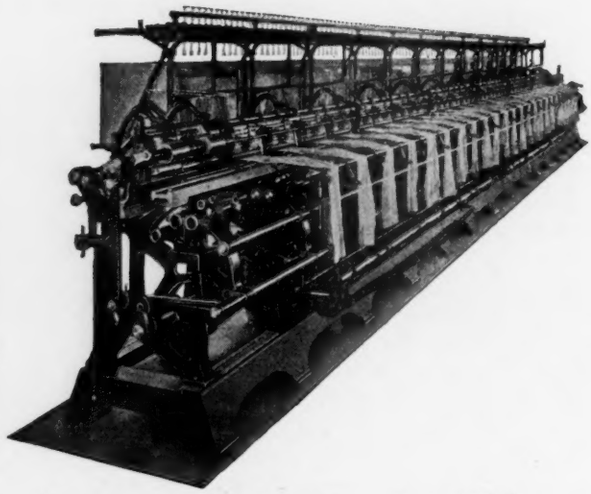
The meeting of the Durene Association of America, also held on Tuesday of show week, emphasized the notable progress made by the durene industry during the past year. One speaker was E. L. Starr, director-treasurer of the organization, who pointed out that the original objectives set up by the association over a year ago are now seen to be "thoroughly and practically attainable" as a result of "highly gratifying progress during the past twelve months." The durene campaign, he said, "has brought the first favorable public recognition ever accorded the mercerizing industry as a distinct textile group. Today quality mercerized yarns are for the first time in the history of this industry known by a quality identifying name. Of more than passing importance is the wide adaptability of the new durene fabrics. One outerwear knitted fabric which we have promoted as a part of our general service is on the market at the present time in dresses and suits ranging from $10.50 wholesale to $225.00 retail. It is a sturdy, yet sheer, cool, smart and infinitely versatile fabric, appearing in beach pajamas, sports and spectator sports suits, street suits and dresses, parasols, and hats. It is all-durene, soft in luster, durable, and adaptable in styling, an interesting example of what our old friend quality mercerized cotton may do in a new field.

William Meyer, who succeeds Mr. Mettler as president of hosiery and underwear association.

"These high fashion spots in the new durene development should provide ample encouragement to cotton manufacturers in general. Their value lies, of course, in the leadership influence they exert upon the volume field, in the way of getting more durene hosiery, durene underwear, as well as durene outer apparel used with conscious understanding of their virtues and fashion values by women consumers who in the past have looked down on cotton."

Mr. Starr also directed attention to the fact that while quality mercerized yarns are primarily important in underwear and hosiery, the association has found splendid outlets in the outerwear field. Any

As easy as switching the light on or off



The operation of the slow-motion mechanism in the Wildman Full-Fashioned Hosiery Machine is simplicity itself. A child could do it. There's no muscle required. It's as easy as switching on or off the light.
Write for further information.

WILDMAN MFG. CO.
Full-Fashioned Division Norristown, Pa.

WILDMAN
THE WORLD'S STANDARD

WILDMAN
FULL FASHIONED HOSIERY MACHINE

Looking across "Machinery Row" at the Knitting Arts Exhibition.

knitter, he explained, who can make durene mesh fabrics for underwear can advantageously develop certain of the many new uses of durene yarns which the association is opening up through its research and styling departments.

Miss Kathryn I. Day, the association's fashion counsel, spoke also, illustrating the past year's durene fashion promotion developments by means of a fashion show on living models. In addition to a varied and excellent collection of knitted durene fashions, illustrative of a wide range of merchandising prices, the fashion exhibit included a number of woven and embroidered durene clothes, which served further to direct attention to the versatility of this textile. Heading the presentation was an underwear display on living models. The old fashioned cotton union suit was followed by examples of new, dainty styling in the underwear field; outerwear fashioned included sports, afternoon and street costumes, dinner and evening gowns running the fabric range of plain and fancy meshes to sheer embroidered organdies, laces and nets.

Knitting Convention.

The 27th annual convention of the National Association of Hosiery and Underwear Manufacturers was held on Thursday, April 16th, in conjunction with the Knitting Arts Exhibition. It consisted of one session, containing two valuable addresses, officers' reports, and election of new officers.

William Meyer, president of Apex Hosiery Co., Philadelphia, Pa., was made president succeeding John Wyckoff Mettler, president, Interwoven Stocking Co., who retires as association head after three years of service. George F. Dickson, of the Minneapolis Knitting Works, was re-elected first vice-president, and Rupert C. Aycock, of the Aycock Hosiery Mills, South Pittsburgh, Tenn., was made second vice-president succeeding Mr. Meyer.

Official announcement was made of the retirement, on May 1st, of John Nash McCullaugh, for the past nine and a half years secretary and managing director of the association. Mr. McCullaugh resigns to become general manager of the Berkshire Knitting Mills, Reading, Pa., largest manufacturers of full-fashioned hosiery in the world. His resignation was accepted by the directors with regret at losing his services and with appreciation of the unprecedented amount of constructive accomplishment achieved by the association under his direction. Mr. McCullaugh, in his new position, was made a director of the association. A committee was named to consider applications for the position of managing director succeeding Mr. McCullaugh, and it was stated that a decision probably would not be made before a month or six weeks following the annual meeting.

In retiring after three years as president, John Wyckoff Mettler presented an unusually forceful and thoughtful address. After offering a general report on the association and its activities, Mr. Mettler launched into a clear-cut and striking presentation of current major problems of the industry, suggesting means of their solution. He said in part:

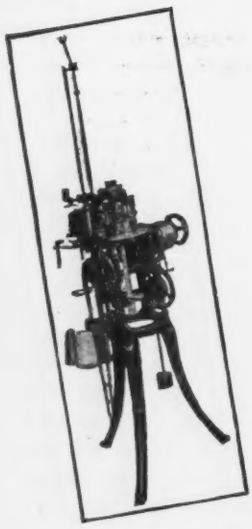
Mettler's Address.

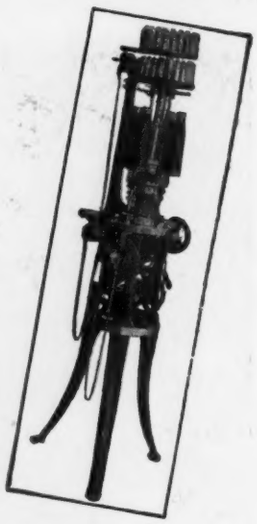
"Now that it appears obvious that intelligent balancing of production with demand rests very largely upon the statistics of the industry, the question naturally arises, "Why have not such statistics been secured in the past by this Association?" The answer is that the members have not been willing in the past to contribute such statistics, which require the furnishing of information on orders, production, stock on hand, sales, etc. Such figures are always retained under a confidential plan and are *distributed only to those who themselves contribute their own statistics* into the clearing house established for that purpose. During the coming year this Association will make a thorough, organized effort to put into effect a general plan of securing vital statistics from all manufacturers in this Association. If you will co-operate 100 per cent. in this plan, you will find it the most important service you have ever secured from this organization. Elimination of overproduction requires the obtaining of data upon which operations are to be based and a realization of the meaning of the facts which these statistics reveal.

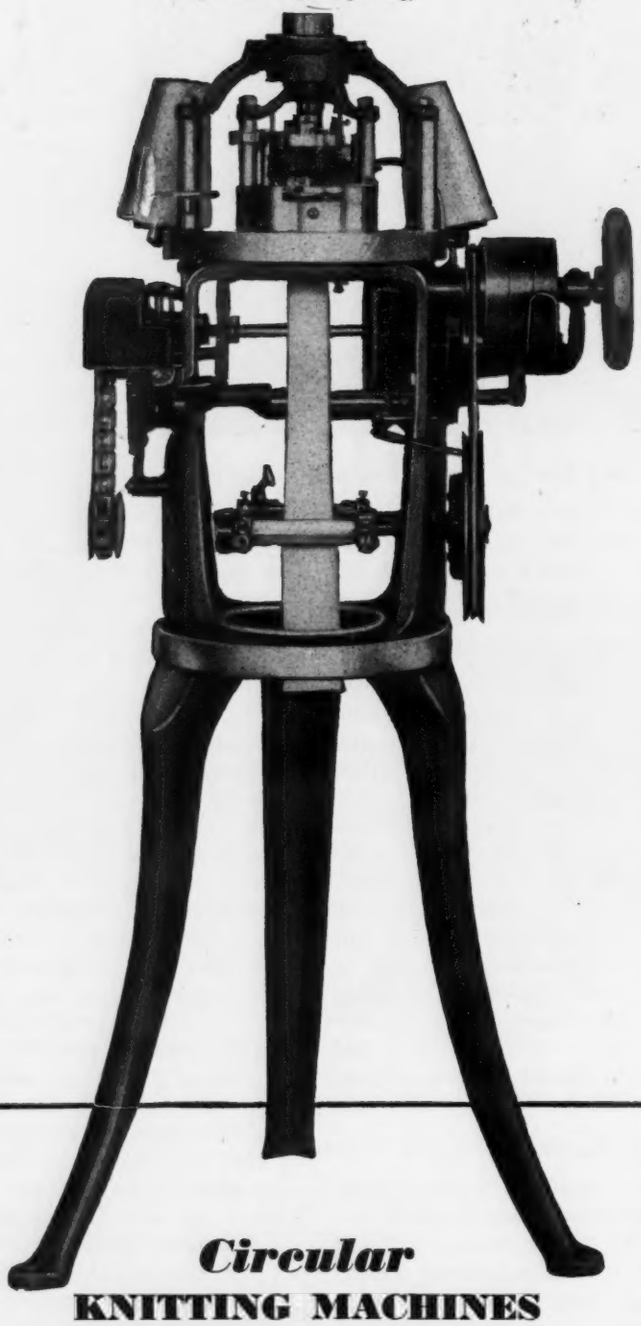
There are two ways to accomplish balance between production and consumption, or supply and demand: (1) By voluntarily submitting to compulsory control. This type of plan might be acceptable to the Teutonic nations, but it would never go in America. (2) Voluntary assumption of individual responsibility by substantially every member of the industry. This type of self-government in industry appears to be the most feasible for our use. Under such a plan, data would be collected on orders, stocks, production, sales, market capacity and market conditions, and intelligently interpreted for the benefit of the *contributing* members. Operating capacity should be carefully planned, so that steady operation throughout the year can be

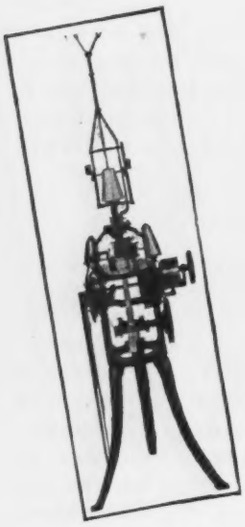
ALL TRUE-RIB

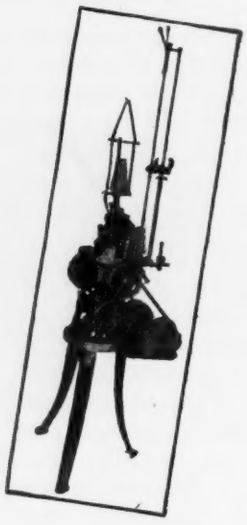
(Patented or patent pending)

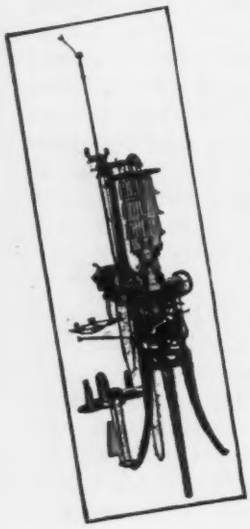


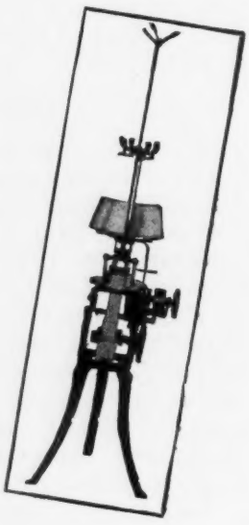












Circular

KNITTING MACHINES
BRAIDING MACHINES
CREASING MACHINES

FIDELITY MACHINE CO.
3908-18 Frankford Avenue
PHILADELPHIA, PA.

THE FIDELITY UNIVERSAL RIBBER

accomplished as nearly as may be for the benefit of steady employment of operatives. The General Motors plan should be carefully considered, which calls for *factory capacity less than demand during peak months*, as in no other way can uniform, steady employment be conducted throughout the year and the savings and advantages of such a plan effected.

While it is desirable that radical changes in production schedules should be eliminated as far as possible, it is nevertheless of fundamental importance to *keep finished stocks down to the minimum* and, instead of attempting to lay down a hard and fast production program a year ahead and then to stick to it regardless of the demand, the policy should be followed of keeping production *at all times under control* and in correct and accurate alignment with the demand and movement of goods.

J. N. McCullaugh, who retires as managing director to become manager of Berkshire.

It appears to be preferable to receive statistics of the industry either upon a monthly or semi-monthly basis—if obtainable. Statistics based upon an annual or semi-annual basis are obsolete and useless excepting in times of unusually steady demand.

In slack periods it appears desirable to preserve the organization of trained personnel by reducing the hours of work per man rather than by reducing the number of employees.

Quick action is of the essense of any practical plan. Failure to quickly readjust production schedules to the sharp drop in purchasing power which took place in the Fall of 1929 is largely responsible for the heavy losses which resulted to the industry from piling up of excess stocks of finished goods, which resulted in breaking down the market prices to a level well below actual cost of production. The lower selling prices per unit resulted in heavy decrease in volume of business which, in turn, automatically increased the burden of overhead and thereby actually increased the cost of production by a greater factor than can be overcome by the very low prices for raw materials or any possible saving in wage reduction, notwithstanding the fact that the actual consumption in number of dozens has remained fairly constant. In other words, in most plants costs per dozen are actually increasing rapidly in percentage to selling price or dollar volume of business done. To illustrate—if ten units of production sold for $100.00 in 1929, and the same ten units of production are sold at $50.00 in 1930, the *percentage* of overhead and fixed charges to selling price has approximately doubled, which will not be realized by many until their balance sheets are struck at the end of the year.

Sales quotas have lost their former lure—"Sales at profit" will gradually take the place of "Sales at any cost," and many firms will make *more* money by selling *less* merchandise. Those manufacturers who have subscribed to the so-called "Honor Roll" are on the right track now—keep distress goods off the market by "stopping them at the source"; stop making goods on speculation; manufacture only against actual orders, and make only what you can sell *at a profit*. Follow this formula and you will effect stabilization of what should be one of the most stable of all industries, for hosiery is one of the great necessities of universal and continuous consumption and offers an opportunity for profitable operation possessed by few of the major industries.

"Misery likes company," and so, in times of distress, manufacturers grasp about at straws and often try to solve their problems by attempting to transfer the burden to the shoulders of someone else. They often form local or smaller organizations of some subdivision of the industry in the hope of getting closer together, only to find that the wider the scope and the greater the coverage, the more efficient the organization, the better the personnel, and the more complete its information and facilities to handle the questions (problems) arising.

P. I. Loeb, hosiery buyer for Macy's, who made a frank talk at the convention.

Make use of the *best* agencies at your command—seek the advice of the best collective thinking of your own industry and follow it. If in doubt, put it up to the National Association. Look back over the advice it has been handing out to its members for years and see for yourself that you wouldn't have gone wrong in following it.

No one can predict with certainty how long the present business depression may last. We do know that the longer it runs the sooner it will be over. The country is not dead-broke and people will continue to wear hosiery and underwear. It is highly probable that they will not get either at lower prices than they are getting them today. With silk at its lowest price in history and with rayon selling at or below cost of production, and with cotton yarns below their pre-war prices and with hosiery and underwear manufacturers passing along all these advantages to the retailer at wholesale prices, carrying an actual loss to the manufacturer, you are certainly at or below bottom.

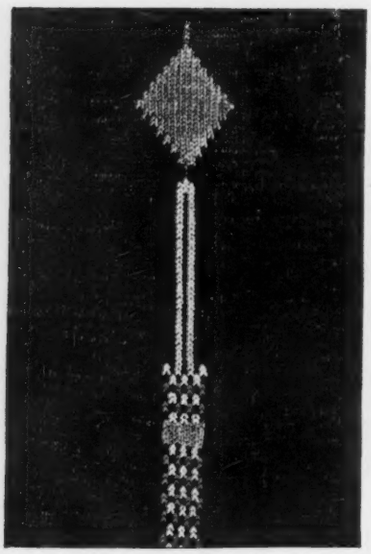
If we are to accept the freight ton mile figures of the depression periods of 1893 and of 1907 as the best barometer by which to gauge expectancy of recovery, it appears highly probable that the corner will be turned this year, but it is high improbable that we will get back to normally prosperous conditions for a considerable period of time. It is to be expected that the present year will be about the same as last year in its total unit sales, possibly a few per cent. more or less.

It is only reasonable to expect that sooner or later commodity prices will recover sharply and that prices of goods will have to advance accordingly.

2 BANNER DEVELOPMENTS

shown for the first time at the Philadelphia Show

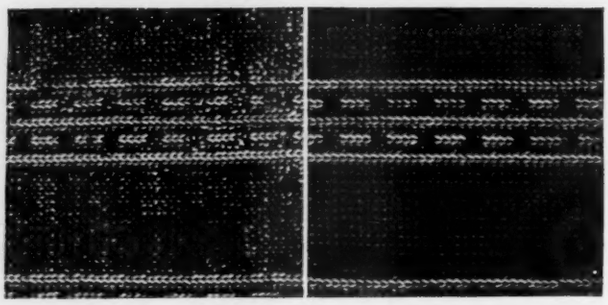
1 BANNER WRAP STRIPE TRIPLE COLOR CHANGE



Three colors in a vertical stripe and plated body fabric gives The Banner Wrap Stripe Machine undisputed leadership in the wrap stripe field. Three years' successful operation has proven Banner Wrap Stripe's ability to meet every merchandising need.

Banner Wrap Stripe Machines have proven every claim for plating ability. They knit silk and wool as easily as silk and rayon, with a quality of finish which is the highest standard in the trade. Vertical designs show broad, bold stripes or fine, "needlepoint" knots in a variety of colors to meet every changing style demand. Banner Wrap Stripe machines always have, and give promise that they always will, lead the wrap stripe field in profitable performance.

2 POSITIVE REVERSE PLATING



Usual method of plating showing color influence of inside yarn.

Positive plating gives sharp, clear patterns, regardless of colors used.

Longer outside loops are the secret of Banner's amazing improvement in the art of reverse plating. Now, black or dark colored yarns can be plated over white or light colors with little perceptible influence of the inner yarn upon the surface .

Banner reverse plating machines, equipped with the Banner 24 Move Horizontal Striper, now have the striper controlled from the pattern drum. This feature, together with the new Positive Plating, is making Bannerknit hosiery dominate the market in misses' and children's reverse plated hose, where excellence of pattern is of paramount importance. Quick pattern change—machine stopped less than five minutes.

BANNER

AUTOMATIC HOSIERY MACHINES

HEMPHILL COMPANY

PAWTUCKET, R. I.
General sales office and machine exhibit:
93 Worth Street, New York, N. Y.

BRANCH OFFICES:
PHILADELPHIA 215 So. Broad St.
HIGH POINT Commercial Bank Bldg.
CHATTANOOGA James Bldg.

Looking from the front, down a center aisle at the knitting show.

Believe it or not, the fact remains that the wearing apparel industry has always been among the first to decline in any great depression and among the first to recover, and there is every reason to believe it will again be among the first to recover from this great depression.

An interesting feature of the session was a frank talk to hosiery manufacturers by Paul I. Loeb, hosiery buyer for R. H. Macy & Co., New York City, "the largest department store in the world." Mr. Loeb took up some of the manufacturer's major problems, and presented the view of the retailer on how he (the manufacturer) may better equip himself for supplying the changing market requirements. His address follows in part:

Loeb's Address.

One of my main topics today will be specialization, a topic of special importance to the medium sized and smaller mill. Experience has taught the retailer that to be successful he must specialize in one way or another. Broadest amongst these classifications is the specialization with relation to consumer class.

The retailer of today is not firing a broadside of appeal to all classes of consumers, but has decided pretty accurately the type of trade to which he wishes to cater, and then has intensively attempted to develop this specialized field.

For instance, the New York Fifth Avenue store has probably said:

"There is in the rich city of New York a sufficient number of consumers in the higher income brackets to support a de luxe type store catering well to their wishes. These people want mostly expensive merchandise, they insist on fashion correctness, they desire novelty, and smartness, and will pay for a de luxe atmosphere. If we can assemble these factors in the right manner and then correctly exploit them, we can be successful."

This same specialization is true of hosiery manufacturing. To reduce it to the ridiculous—a manufacturer of fine ingrains would never dream of seeking additional business by making a heavyweight low gauge dip number.

Yet how many of the smaller mills have I visited on inspection trips, where I have found the same mill attempting to manufacture a low gauge "price" article while at the same time wrestling with the intricate problems of manufacturing a very fine grade on a much finer gauge?

One of two things usually results. Either the cost of the low end number is so excessive as to make it unmarketable at a profit, or the finer article is badly made, through the influence of manufacturing methods adaptable only to the cheaper number. In either case another orphan usually sadly tells its story in some sample room.

Now let us not carry such a measure to an extreme. I do not mean that every mill must specialize in only one gauge or one number, but most certainly in the medium sized or smaller mill the articles manufactured should at least be closely related in gauge, weight, and manufacturing methods.

Unless his business is large enough to employ specialists in each branch, surely the man who makes the best ten thread on the market cannot possibly make a better three-thread grenadine than any of his competitors, and in the competitive era which you have now entered, unless the article you manufacture ranks high in its class or price, you cannot be successful.

A second phase of specialization which I consider important to you is specialization in the making of hosiery. This sounds redundant, but by the term making of hosiery I mean just that—making hosiery—and not gambling in the silk market.

The successful retailer has long ago learned to keep his nose pretty close to the grindstone and to look for his yearly profit from actual distributive operations and not from the rise and fall in the value of his commodity stocks.

In contrast to this I find the average hosiery manufacturer inclined to take excessive risks in the silk market on the gambler's ever-present hope of "beating the game." If you must gamble there is no one to stop you, but at least frankly call it gambling, and don't debit your manufacturing business with the losses you may take through your excessively speculative ventures in your raw material market.

There is, too, a third phase to specialization, and that is specialization of distributive channels. There has been over the course of the past several years a definite trend towards the intermingling of the various distributive methods.

Originally most hosiery mills sold their production to the wholesaler or jobber, leaving him the work of redistribution to the retailer. Changing conditions have recently brought a decided trend towards the selling of the retailer directly, and only too many mills have taken this step with but very superficial thought and study of the new and different function which they have thereby assumed, and the resultant changes in manufacturing and merchandising methods neces-

sary.

I find it surprising how many mills have made no definite policy in this respect, wanting their cake and wishing to eat it too; and, also, having made this hit or miss change in distributive method, have not regeared their organizations to take care of the new and different services required by this new class of customer they solicit.

I do not wish to go into all of the many problems confronting the manufacturer now beginning to sell the retailer but I do desire to bring up two points of policy which from the retailer's angle I consider of importance.

The first is that you cannot sell the jobber, the large retailer, and the small retailer at the same price. It is uneconomic to do so and all that will happen is that you will lose the larger and more profitable customers to a wiser competitor, while retaining the smaller and more costly ones to handle. You must make a choice of one of four steps:

(a) selling the jobber only
(b) selling the jobber and large retailer only
(c) selling all classes of retailers only, and not selling the jobber, or
(d) selling all three, but arranging a price differential so as not only to protect your larger outlets, but also to cover yourselves on the increased cost corollary to doing business with the smaller purchaser.

Secondly, you must make a definite stand and outline your selling policy on the question of selling competing retailers in the same city or selling area. It is not for me to discuss this question here, but you must certainly give it due consideration and study, reach your decision, and then abide by it.

Now let us return to our major topic of specialization and take up its fourth phase, and a very important one. If you are going to sell the retailer, you must specialize in taking care of his particular needs.

There are many ways in which the needs of the retailer differ from those of the jobber. To the retailer these needs are real and rank as of major importance along with quality and price, and the manufacturer not able or not willing to cater to them will soon see his share of the retail business going to those of his competitors who have foreseen the contingencies and prepared for them.

I wish to strongly impress upon you the fact that in selling the retailer you are now absorbing and assuming many of the duties of the jobber and that unless you perform these services well there is no economic justification for your move.

For instance, one of the functional requisites of the jobber is adaptability to the organization methods of his customers. As an illustration allow me to take the trivial detail of billing.

A department store or chain store organization handles many, many thousands of items besides hosiery. One of the store's major organization problems is to evolve an orderly system for the receipt of these thousands of items, the delivery to the correct department, the checking of the bills against the orders, and checking of the merchandise against the bills, and the payment of the bill before its due date.

With the receipt of thousands of cases daily, in order to have an even flow of merchandise, this system must run smoothly and the vendor must conform to the details of the system. The failure may be to invoice by size or by color, or the failure to mention the order number or department number on the bill, the failure may be to invoice in duplicate or triplicate, the failure to get the bill into the retailer's hands concurrently with the merchandise—any of these trifling failures or many others can cause an untold amount of extra labor and delay to the retailer, yet I find a most thoughtless resistance on your parts to the furnishing of these small services.

The second and an all-important functional requisite of the jobber is regularity and dependability of deliveries. The retailer of today, in order to profitably merchandise his departments, must look to turnover and liquidness of stocks to give him his profit, and it takes careful calculation and planning on his part to correctly balance his sales, stocks, orders, and deliveries, not only to take care of the regular run of business, but to rise and fall with the seasonal peaks and declines of consumer demand.

On the other hand the manufacturer strives for evenness and continuity of production, and it has always been the jobber's function, through the cushioning action of his own merchandise stocks, to absorb the friction of these conflicting needs.

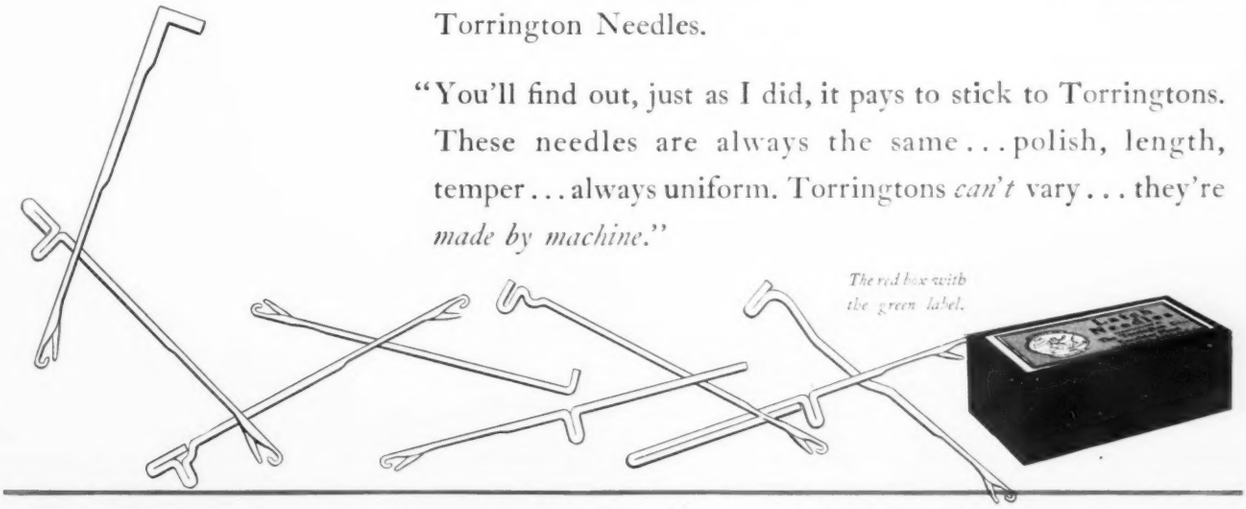
On the other hand, a difference of a day or so in

Looking through one of the center aisles at the Knitting Arts Exhibition in Philadelphia last month.

The Old Knitter Talks

"TIME and again you'll come back to the needle for the trouble, young man. And you'll be glad to know these questions can be settled once and for all by putting in Torrington Needles.

"You'll find out, just as I did, it pays to stick to Torringtons. These needles are always the same . . . polish, length, temper . . . always uniform. Torringtons *can't* vary . . . they're *made by machine.*"



TORRINGTON *Latch* NEEDLES

Only a Machine can measure PRESSURE

WE test air pressure with a "machine"... and this gives us the advantage of *mechanical perfection*. The result is correct, to the smallest degree of measurement.

In Torrington Spring Beard Needles, this same advantage is evident . . . because they are made by machine, with a deliberate, measured uniformity that reflects in the even knitting they do.

The red box with the green label. Packed 1000 to the box. Each box contains 10 packets of 100 needles wrapped in glazed paper.

The Torrington Company
ESTABLISHED 1866
Torrington, Conn., U.S.A.

BRANCHES:

THE TORRINGTON COMPANY, 1640 FAIRMOUNT AVE., PHILADELPHIA
THE TORRINGTON CO., INC., 140-144 W. 22ND STREET, NEW YORK, N. Y.
LOS FABRICANTES UNIDOS 864 CALLE BELGRANO, BUENOS AIRES

FACTORIES AT
TORRINGTON, CONN.
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COVENTRY, ENGLAND
AACHEN, GERMANY

TORRINGTON
Spring Beard Needles

making delivery to a jobber is quite tolerated. The retailer of today is working on so close a merchandise stock that failure of his source to deliver on an agreed and specified date inevitably means lost sales. For this to happen on a rare occasion is exasperating. For it to happen continuously is ruinous, and the retail buyer will soon seek new sources where greater dependability can be secured.

Re-Gear Your Manufacturing Program.

This means that you, the manufacturer, must either regear your organization to smoothly operate on a still more seasonal and intermittent manufacturing program, or by more careful merchandising methods secure a greater cushioning action from your own finished stocks.

It means both preplanning of sales and organization of better stock control methods, and the doing of each needs most careful study and diligent research.

It is here that you can get your best tip from the efficient retailer, for he has since long ago been up against these very problems, and the years of competitive struggle through which he has passed have indelibly engraved in his mind the fact that every dollar invested in merchandising must bring results, and that every dollar invested in needless merchandise means loss of profits. Yet how many hosiery manufacturers, who are by their very absorption of a portion of the jobber's function now forced to carry a finished stock, do so intelligently?

From my inspection of stocks on your shelves, and the perusal of stock sheets in your sales offices, I cannot believe that very many do so—else why do I always find the same characteristics of bad merchandising—a predominance of the slower selling styles, colors and sizes, and a broken stock in the good selling items—A stringency three weeks before Easter, and a flood of "just too lates" a week later?

Learn to Plan Ahead.

And now for my last topic—yourselves and the men under you. During my brief association with the hosiery industry it has been my privilege to visit a great number of mills and to meet the men that make the wheels go around—not just the salesmen and sales-managers in New York, but the department heads, the mill superintendents, and a good many of yourselves.

In comparing these men with men occupying corresponding positions in my own organization, I found a startling difference. Whereas the retailer long ago was painfully made to realize that he and the executives under him must constantly be on the alert for new ideas, new methods, new resources, new outlets, greater technical knowledge, and a broader general background, a great proportion of the men in the hosiery industry have comfortably lulled in the false security caused by a seemingly ever-increasing demand for their product.

Under these circumstances they were able to produce goods at a profit under management methods and internal conditions which could not withstand the force of real competition, but more important, they did not prepare themselves or the personnel under them for the approach of the day when conditions would really become competitive.

For example, I have found a very slip-shod method of executive and semi-executive personnel selection. I find only too many cases of good knitters, or good machinists, or good foremen, or good department heads mistakenly put into jobs beyond their horizon, and though loyally attempting to conscientiously fill the job assigned them, nevertheless aiding materially in the disintegration of your organizations.

The fault is not theirs—it is yours, for on you devolves the necessity of wisely choosing your subordinates, and on the care taken in making this choice often hinges the competitive position and standing of your enterprise.

Certainly a step as important as this and so directly influential in your succes or failure needs more careful consideration and more detailed analysis than you seem to have given it.

Study Your Own Organization.

I am also quite astonished at the utter lack of a systematic attempt on your parts to school your major executives towards the attainment of better and improved methods of merchandising, of management, of production, and of control, and for the analysis of innumerable other questions which the alert business man of today finds it his imperative duty to inform himself and through the quality of his leadership imbue in his subordinates.

How many in your own organization have during the past year more than superficially done any research study on dyes ond dyeing methods? On throwing problems? On inspection methods? How many of you have improved your cost accounting systems? Your inventory control methods?

How many of you have taken absolutely full advantage of this, your own manufacturer's association? Or how many of you have taken advantage of data from other trade associations such as the Silk Association of America, the Wholesale Drygoods Association, or the American Management Association.

How many hosiery mill executives during this period of economic readjustment have read a single authoritative book on wage scales? On labor unionism? On personnel problems? How many of your sales managers follow the Federal Reserve figures on retail hosiery sales in the United States by districts?

How many of you thoroughly analyze the Department of Commerce statistics on current hosiery production and inventories? Who of you have seriously studied the possibilities of export trade?

One could keep on indefinitely enumerating more and more outcropping possibilities for individual improvement, yet, I have found in my visits to a great many of your mills no individual effort to more than superficially analyze either individual mill problems or general problems relating to the industry and to find the methods and paths which lead out of the rut into which the hosiery business has gravitated through the very quality of its own inertia and superficiality of thought.

The report of Ernest Blood, as treasurer, showed the association to be in splendid financial condition, and also outlined some of the major activities of the organization. The convention was concluded by a delightful luncheon following the morning session.

SIX 3-T MACHINES . . . . . NOW IN STEADY PRODUCTION

You can ask for a practical demonstration on Reiner 3-T Machines-*and get it!* Six 3-T Machines are now in steady production, knitting from 9 to 11 dozen pairs of stockings, complete from Top-To-Toe every ten hours. No need to go abroad to see these machines. They are in operation right here, at home. You can see them yourself anytime you care to make the appointment.

■

No stretched wales at the instep-
No loose fabric at the heel.

REINER 3-T MACHINES

EINSIEDEL - REINER
LEGGERS AND FOOTERS

SEYFERT & DONNER
LEGGERS AND FOOTERS

Reiner 3-T Machines employ the "Wale Addition" method of knitting to form the heel portion, superceding all previous attempts to knit full fashioned hosiery complete on one machine. It was acclaimed by hundreds of practical knitters, visitors at the Philadelphia Show, as the most successful method shown. Reiner 3-T Machines use this method to its fullest advantage, because, being first, they use it in the simplest and most direct way.

3-T Machines are equipped with 8 yarn changes. They knit all silk heel and foot, or all silk heel with plated or split foot, or all silk foot with plated or mercerized heel. They have an extremely accurate adjustment for size at instep and heel where fit is of the utmost importance. Their production can be timed any working day at from 9 to 11 dozen every ten hours, depending upon gauge and number of courses per inch.

■

See Reiner 3-T Machines for yourself, and learn why conservative mills are making committments for 3-T Equipment.

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REINER
INCORPORATED
WEEHAWKEN, N. J. Tel. Union 7-0502
25 MINUTES FROM TIMES SQUARE

EINSIEDEL-REINER
♦
FULL FASHIONED HOSIERY MACHINES

Elimination of Bad Sizings.

This contributor gives several suggestions for overcoming bad sizings on half-hose. Have you any?

EDITOR COTTON:

I am going to attempt to help a contributor of yours out, who seems to be having trouble with bad sizings. In a recent issue "CONTRIBUTOR NO. 4815" asked for some information as to what causes bad sizings on rayon and Celanese constructed half-hose.

I would first suggest that he begin to remedy his trouble by checking to see that the cylinder will drop freely. This done, he should make sure that the left side cam fits up close to the left stitch cam so that these cams have the needle under perfect control while forming the stitch, which will also help to make an even fabric. A machine is not likely to make an even fabric with play between the stitch cam and end cam. The cylinder is raised while making the heel and toe and if it does not drop freely the result will be a loose stocking.

The tension under which the yarn runs also plays an important part in keeping perfect sizing. If lint is allowed to accumulate in the discs (if this type of tension is being used) this will also cause loose stockings. Disc type tensions should be cleaned out several times daily.

This contributor also asks for discussion on winding in connection with bad sizing, and in all probability this is where his trouble is coming from. If he is using tall bobbins I venture to say that he makes a long stocking on a full bobbin and a short one on a bobbin that is almost empty. If his bobbins are more than seven inches tall he should cut them down to this length, as the rayon will drag on them when they are nearly empty. I would suggest that he use a good ballooner about three inches above the top of the bobbin. This has a tendency to throw the yarn clear of the bobbin at all times, and thereby cause an even drag on the yarn whether the bobbin be full or nearly empty.

Another cause of your contributor's trouble could be his method of preparing his rayon for winding. He did not state his method of oiling so I will give him mine. We have an extractor which holds ten 10-pound bundles, or 100 pounds. We take these bundles and unwrap them, then place each one in a fine mesh bag made of heavy material and place them in the extractor, distributing them evenly in the machine so that it will run smoothly. Before we start the machine we submerge the rayon in a good grade of rayon oil and allow it to remain for five minutes. Then we start the pump which pumps off the oil. We then start the extractor and allow it to run five minutes and start the pump again to pump off the oil that has been extracted thus far. We again start the extractor and allow it and the pump to run exactly thirty-five minutes longer which gives us an even amount of oil in the whole batch, and this is very necessary for good sizing. Too much oil will cause a tight stocking and not enough will cause a loose one.

If "CONTRIBUTOR NO. 4815," or any other contributor, is at all interested in using this method of oiling rayon, I will be only too glad to give the information I can about it.

CONTRIBUTOR NO. 4955.

WE invite our readers to make use of this department for the discussion of any and all problems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given, but will be held in confidence and a pen name substituted when printed. All acceptable contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

Recommendations on Seaming Thread.

Ideas as to the best practice to eliminate drop stitches in seaming service weight hosiery.

EDITOR COTTON:

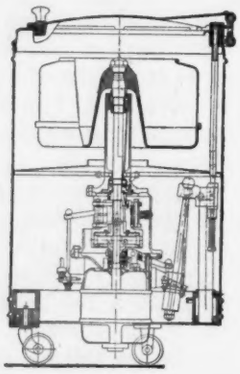
In a recent number you published an inquiry from "CONTRIBUTOR NO. 4908" as to the proper size and kind of seaming thread for use on service weight full-fashioned hose. He stated that he is using 80s/3, but has encountered quite a bit of trouble with drop stitches on machines.

I would recommend the use of 80s/3 sewing thread for the needle on both looping and seaming for service weight hosiery 39- and 42-gauge goods, in silk endages of 7-thread and up. For the looper hook on both loopers and sewing machines I would use 60s/2 soft twist, preferably with no more than 6 to 8 turns per inch.

THE READING PORTABLE CENTRIFUGAL EXTRACTOR

The "Reading" is but 28 in. in diameter and is mounted on fixed wheels and a caster to permit easy handling from one department to another. The machine consists essentially of an 18 inch bronze Basket driven by an Underslung Motor, Centrifugal Clutch, and a Built-in Mechanical Brake for bringing the basket to rest quickly after current is cut off. All moving parts are enclosed in a Monel Metal Casing.

The method of mounting is unique and important, in that the entire working unit is carried on free-swinging suspension rods, the support brackets for which are attached to the vertical posts.



By means of this special arrangement embodying a fixed basket and three-point free suspension, automatic self-centering of the driving apparatus is secured, thus reducing vibration to a negligible amount and preventing the machine from "creeping".

A compactly arranged panel located on the side of the casing contains the start and stop levers, current tell-tale, push contact for power cord, motor switch, and a central Alemite greasing station.

In response to a long-felt need in many industries for a small, high-speed portable dryer of the centrifugal type, Textile Machine Works has designed and developed a compact, efficient extractor with an almost unlimited range of uses.

The "Reading" is in no sense a washing machine type of dryer, but a safe, rugged extractor built for long and continued service in industrial establishments. While its capacity is small, the "Reading" can be loaded, operated and emptied with such rapidity that it is actually a *production* machine.

These advantages will undoubtedly prove of great value to textile finishers, dye works, laundries, chemists and the process industries. Special baskets for various requirements will be furnished on order. The wet load should not exceed 45 pounds.

The construction, operating principles and safety features of this extractor are explained in detail in a recently issued bulletin. At your request we will forward you a copy at once—the coupon is for your convenience.

TEXTILE MACHINE WORKS
Reading, Pennsylvania

Textile Machine Works, Reading, Pa.
Dept. B

Please send Bulletin covering The Reading Centrifugal Extractor to

*Name*_____

*Street*_____ *City*_____

The trouble of drop stitches in the seams, which this man mentions, is not necessarily a thread trouble, and is most likely caused by improper adjustments of the machine. It is thoroughly possible that with the proper adjustment of the needles, looper hooks, chaining finger, etc., along with correct tensions, the trouble will be entirely eliminated.

CONTRIBUTOR No. 4922.

EDITOR COTTON:

Replying to the question of "CONTRIBUTOR No. 4908" with regard to the best size and kind of seaming thread to use on his service weight full-fashioned hose. I cannot suggest a better number than 80s/3, which is what he says he is now using. It is possible that the quality of the 80s/3 that this correspondent is using is not what it should be. The correct twist and proper mercerization are very important to sewing threads. A three-ply yarn is always more desirable for thread as it is usually more uniform in size and more neutral in twist.

Some economy may be effected by substituting a coarser two-ply thread, say 50s/2, for the 80s/3 in the hook, and the hook thread has little to do with the machine skipping or dropping stitches. If the 80s/3 thread in the needles tests good quality, then I would look for other causes than the thread for drop stitches.

CONTRIBUTOR No. 4923.

High-Pressure Lubrication on Knitting Machines.

Entirely an opinion without actual experience. Have you used it? If so, how do you like it?

EDITOR COTTON:

I notice that in a recent number "CONTRIBUTOR No. 4900" mentioned the use of a high pressure system of lubrication on full-fashioned machines. He stated that they had been trying it for some time and had found it satisfactory, as they had found that undesirable features, such as oil on goods, oil drip on the floor, etc., were eliminated. He asked for further discussion on the subject.

I have not tried this system, but I am of the opinion that an operative with the increased power of a pressure gun could make more difficulty than he could with an oil can. The mechanic's definition of lever power was, "a 14-inch monkey wrench in the hands of a fool. This definition in a large measure explains the cause of oil on the goods, oil drip on the floor, etc. There is no need for these difficulties with any system. If an oil of the proper consistency is used in the right quantities and applied in the right way to the oil hole (not *near* the oil hole) there is no reason for oil getting all over the machines to soil the goods. This might be one advantage of the pressure gun. The operator would have a grease plug to fasten his gun to and this would limit the distribution to a narrower range. After all, it depends largely on the operator. If a knitter is inclined to be neat and clean in his work he will be clean, and if he is inclined to be sloppy he will find a way with any system.

CONTRIBUTOR No. 4923.

Making Less "Fuzzy" Streaks.

A seamless man answers some questions. What are your remedies for this trouble?

EDITOR COTTON:

In your July issue, "CONTRIBUTOR No. 4718" asked for some information on overcoming "hairy" or fuzzy needles, and in subsequent issues there have been numerous remedies suggested. In your November number "CONTRIBUTOR No. 4833" says that he has found it to be gum getting in the latch of the needles, causing them to work stiff, which "causes a fuzzy or hairy streak."

Now, if my experience has taught me anything about making hosiery, a stiff latch will cause a loose streak but not a fuzzy or hairy streak. If the latch is stiff and fails to close up as it sheds the stitch, the stitch will be stretched and make a loose streak, but I see no reason why it would make a fuzzy streak.

Fuzzy streaks are caused, for the most part, by loose rivets in the needles or rough sinkers.

Regardless of the condition of the machines, or the kind or amount of oil used, some of this trouble is inevitable, but I would suggest to "CONTRIBUTOR No. 4718" and anyone else having this difficulty that he have his fixers check over every cam over which the needles travel and see if some of them are not very rough. The rough places on cams over which the needles travel have the same effect on the delicate rivet of a needle as driving your car over rough roads has on the bolts and rivets of your car, but unfortunately you cannot tighten the rivet in a needle very satisfactorily and those loose rivets are the cause of fuzzy lines. When a rivet comes loose it will slip to one side or the other and the sharp end will shear some of the filaments, hence the "fuzz".

CONTRIBUTOR No. 4917.

Preventing Tuck Stitches at Selvage.

This man says he has found a remedy for this trouble after turning welt on full-fashioned.

EDITOR COTTON:

I have derived a great deal of benefit from reading the discussions on full-fashioned manufacturing in COTTON, and in return I would like to tell of an investigation I have recently made, which may be of interest to your readers.

I have heard lots of comments as to tuck stitches at selvages on full-fashioned hose, after turning the welts, some of which sound very logical. I was troubled with such difficulties, and after making a thorough investigation I found what I am satisfied is the real cause.

If you will notice, while a knitter is turning welts, he gets hold of the fabric at the end. He holds the welt bar in position with the fabric and as soon as he has the bar fitted, he pulls the fabric down with his thumbs so as to hold the welt bar in position until he can perform the rest of the operation. In doing this, he stretches the fabric at the side or selvage much more than at the center of the top. After the welt is turned and the knitting of the fabric is continued, you can notice how all of the tension is on the center of the

top and the side hangs loose. Thus the tuck stitches at the sides during the flare operation, and not until the fabric is narrower and the tension gradually becomes evenly distributed over the whole top, is the trouble eliminated.

I trust this suggestion may be of some benefit to some of your readers.

CONTRIBUTOR No. 4931.

Double Sole Plaiting on Seamless.

How to plait properly on 300-needle work, using mercerized and rayon yarn.

EDITOR COTTON:

You recently published a question from "CONTRIBUTOR No. 4895" which read as follows:

"We have been experiencing a great amount of difficulty lately with our double sole plaiting. It just seems impossible for us to get the tension on our rayon yarn necessary to give us good plaiting work. Our body yarn is 125 denier rayon, while we use 90s/1 mercerized in the double sole. This work is done on Model K, 300-needle machines."

I take it from his letter that this man has only recently had this plaiting trouble. I think it likely that he is using a new lot of yarn that does not pull from the cone as freely as the yarn previously used. If this is the case, the best remedy is to arrange a means of holding the splicing yarn in an inverted position on the top yarn guide, drawing the yarn to the double sole finger directly from the inverted cone, which will make it be fed to the needles very freely.

It also may be possible that the sinker cap is not set correctly circumferentially. This would allow the sinkers to be in a stationary position when the yarn is being fed over the tops of them, which will in time make a groove in the top of the sinkers.

It will be almost impossible to plait correctly, as the yarns will not have a chance to turn, due to this groove. If this is so, the only remedy is to fill the machine with new sinkers and set the sinker caps by means of the adjusting screw on the left-hand side of the sinker cap just to the left of the dropper post so that the sinkers are constantly moving while the yarn is being fed to the needles.

It is also important that the needles be in perfect alignment, and the sinkers should be set so that they have a throw far enough to knock the stitch over and to get this setting it is necessary to have the end of the throat of the sinker flush with the back of the needle. This setting is with the left-hand end sinker cam.

It is to be remembered that 125 denier and 90s/1 mercerized yarn is equivalent to 184 denier, which is filling the gauge to its limit; consequently, all settings must be perfectly correct. The splicing yarn should be fed directly in the left-hand corner of the throat plate. The body yarn should be as far away as it is possible to get it without it being fed too low so that the latches on the needles will turn up against the fiber yarns by the previously formed stitch, which will cause shearing and also destroy the plaiting position of the yarn.

CONTRIBUTOR No. 4927.

Makes Gear Ring Out of New Material.

EDITOR COTTON:

I would like to tell of a new material that I recently ran across, or rather of the use that I put this material to. I imagine all knitters have had to contend with the play that will usually crop up in a rather short period of time on circular machines between the bed plate and the gear ring.

As all knitters know, there is a ring that is placed directly beneath the bed plate, and the bed plate and the ring are then placed over the gear ring. I believe these rings have always been made of steel or cast iron. Regardless of what they have been made of, I always found that within a few weeks I would have a lot of play between the bed plate and gear ring. This throws the machine off and causes it to turn out work very inferior to that turned out on a machine that is trued up properly.

I finally decided that I would try making thees rings out of some other material. I heard of a material called meanite. It was claimed that this material possessed unusual hardness, and that it was durable. I made several rings from this material, and the results I have obtained have really been wonderful. With these rings I have absolutely no play between the bed plate and gear ring and the machines run much better.

I just thought that by mentioning this little "kink" I might be able to help some good knitter along who has been enduring the same hardships with play in his machines that I had to contend with for sometime. If I can offer any further explanation, I will be glad to do so.

CONTRIBUTOR No. 4909.

Among the Knitting Mills

ASHEVILLE HOSIERY CO., Asheville, N. C., according to recent announcement, will soon award contract for the addition to its plant, which will be constructed at a cost of $90,000. This building will include a dyeing and finishing department and will permit the employment of approximately 100 persons when completed. When the additional machinery and equipment have been installed the capacity of the plant will be doubled.

The Keystone Hosiery Co., Burlington, N. C., are moving their plant to Asheboro, N. C.

The Byrum Hosiery Mills, High Point, N. C., have recently started operations with fifty 300-needle knitting machines for producing women's pure thread silk hosiery. The plant also has dyeing and finishing equipment.

Lowery G. Bowling has acquired the Princeton Hosiery Mill, Princeton, West Va., which has a daily capacity of 600 dozen pairs of hose. This mill is to be re-organized as the Knit-Rite Hosiery Mill Co. with a capital of $35,000.

The Plymouth Knitting Mills, Betterton, Md., have concluded arrangements for a full-fashioned silk hosiery mill, and have awarded contract to A. W. Gordon, Torresdale, Pa. The plant is to cost $50,000, and 18 full-fashioned machines are to be installed. These machines are to be 45-gauge, 24-section.

Helig Hosiery Corp., High Point, N. C., has been chartered to manufacture hosiery, underwear, shirts and other goods from wool, cotton, silk, etc.

Soumerco Knitting Co., Tryon, N. C., will install 80 additional knitting machines, among which will be 25 loopers, 6 or 8 sewing machines and additional dyeing equipment. It is reported that the machinery has already been ordered.

When You Plan A New Number

use DIXIE *durene* for NOVELTY

Dixie durene is rapidly increasing its usefulness in the Textile field. Mills everywhere are using this yarn in working out new fabrics and new patterns. They are finding that merchandise of Dixie durene (alone or in combination with other yarns) styles well and, more important, sells fast.

When you plan your new numbers be sure to investigate the possibilities in Dixie durene. Let us show you how this yarn makes up into many novel and sales-worthy styles. Let us demonstrate how economically you can use Dixie durene in your mill. We will welcome the opportunity to help you reach new outlets and new profits through Dixie durene.

DIXIE DURENE · A Product of Controlled Manufacture

DIXIE MERCERIZING COMPANY

CHATTANOOGA · TENNESSEE

The KNIT GOODS MARKETS

ACCEPTING the proposal that business in hosiery has mastered the first rung in the ladder in the climb toward the position from which it began to slip almost two years ago and from which it has since been receding, thoughtful manufacturers are engaged with the problem of ascending steadily rung by rung with the least danger of proceeding at a pace that might be calculated to call for a halting, which would mean, judged by past experiences, a scare and going back a rung or two.

There is hosiery aplenty for taking care of consumer needs without risk of a famine, with no immediate increase in potential production of this, the most nimble item in textile manufactured commodities. This premise is supported by retail prices, which in many of the shops and big stores where trash is abominated, are noted in display windows, aside from what may be disclosed at the counters where, presumably, rare bargains are offered—bargains as appraised from the advertising of some of the department stores.

It was impressive that, several weeks ago, a leading department store in Philadelphia which maintains one of the better and more representative hosiery departments in that city, displayed a given type of stocking of a direct-to-retailer mill's nationally advertised brand, at 85 cents a pair, stating in bold type this was the lowest price at which this particular number ever had been offered. This representation proved upon careful inquiry to be true, and as the reputation of the brand must be maintained for preserving its value, it may be assumed the construction standard had not been changed for fitting into the record low price. Doubtless many instances of this character might be cited in support of the proposal there is sufficient hosiery to go around and start another tour of the circle without adding equipment.

Joseph H. Zens made the casual observation when encountered at the recent Knitting Arts Exhibition that the substantial and safer business in women's silk full-fashioned hosiery this year will be found in two price brackets representing the high and low. This was found to be in accord with the views of a number of manufacturers and middle-men in distribution. Mr. Zens, well known as an executive of a hosiery mill in Milwaukee and a one-time executive of the United Hosiery Mills Corporation, Inc., Chattanooga, Tenn., had in his mind's eye one dollar a pair as the low price for stockings of accepted standards and $1.75 to $1.95 as the figures marking the high-price bracket for goods in the shadow of the aristocracy of hosiery. For the low-price range manufacturers allow a leeway of fifteen cents —that is, what may be intrinsically a first-grade dollar stocking may be humbled by a price tag of 85 cents as a sales promotion expedient and, for providing for a sale mark down on a $1.95 stocking is liable to be exploited for a short session at $2.10 or $1.75.

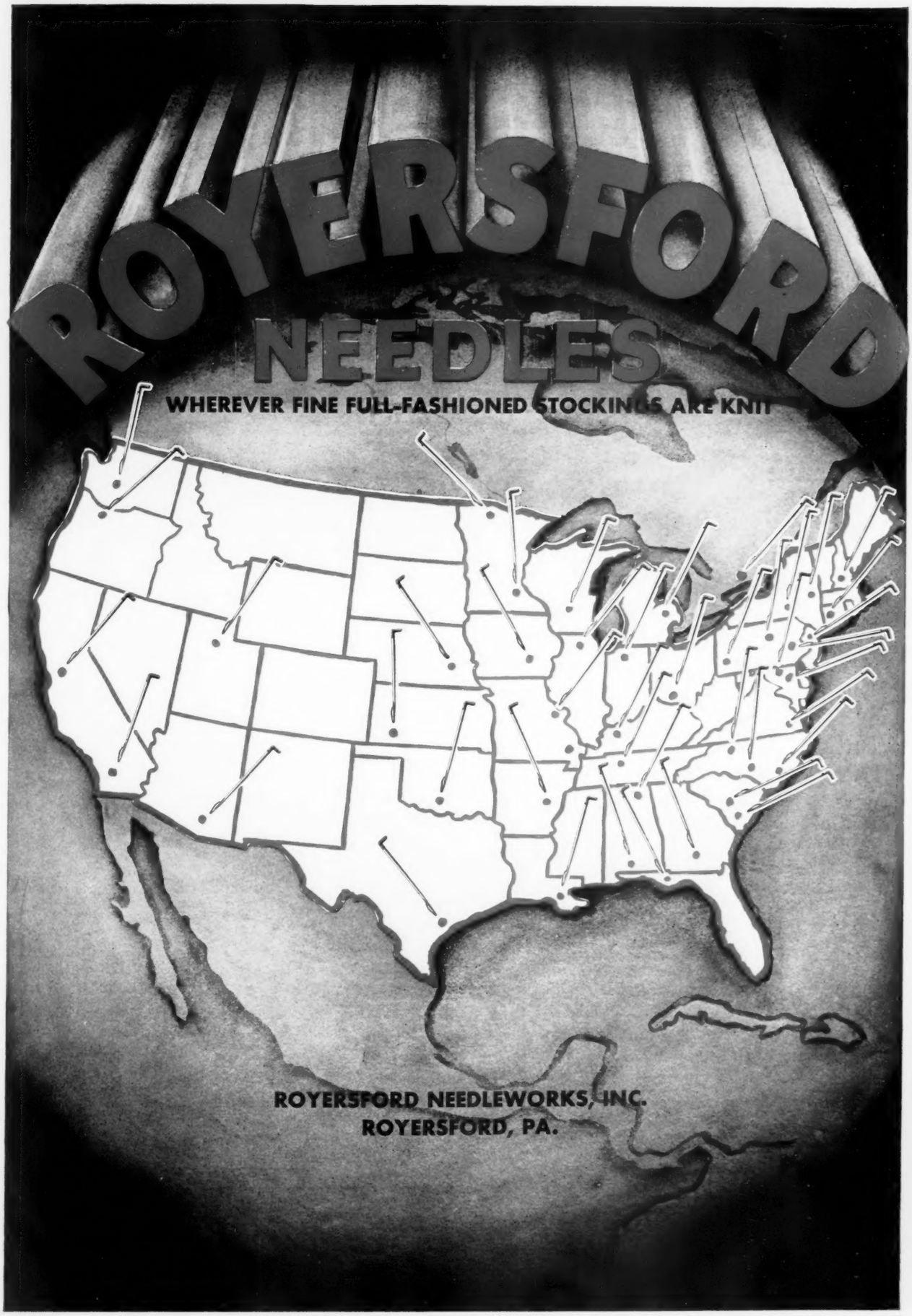
For the manufacture of hosiery of dignity in the two price groups such prices as 59 to 79 cents have little terror. John Wanamaker's in Philadelphia several weeks ago offered silk stockings of good grade but of ancient vintage at 65 cents, accompanied by announcement that was the last time the 65 cent price would be seen on the store's first floor. This really was the intention, and subsequent sales seem to prove it. But the first floor counters and show cases in certain sections are veritable exhibitions of dollar stockings, while in another section the more conspicuous showings are in the high-price brackets.

So long as mills maintain the higher present standards for hosiery to be passed to the consumer for a dollar a pair there will be little increase in the business of the small shops featuring cheaper goods as a leader, is the belief of experienced traders. It hardly can be expected that the stocking offered for much less than a dollar will prove satisfactory, as a going proposition. The disappointed customer will try the dollar goods; not many shoppers will be likely to trade down from the price they have set so long as they are getting honest-to-goodness hosiery. The Berger chain of hosiery specialty shops presents an exception. In the Berger stores 85 cents is the standard low price for an identical number which until two years ago was sold regularly for $1.15 — and it is good stocking. Berger's tried $1.35 recently as its standard high price. It did not prove the magnet that was expected of it—the 85-cent buyers did not take to it and the trade willing to operate in $1.35 goods was diverted by exploitation of the chain's standard low bracket price. "Joe" Zens, ten years ago president of the National Association of Hosiery and Underwear Manufacturers, seems to have visioned the two popular brackets.

Less Style and Novelty Make for Steadiness in Hosiery Market.

STARTING on its climb, the hosiery primary markets are, at the moment, favored with less of style than ordinarily is injected into a dull market. This is noted by some of the ablest factors. Buyers who have been "bitten", as some say, with style hosiery and novelties, for some time have been and still are adhering pretty closely to staples. Lace hems caused a modest flurry, but these are not in the higher price range and sales not voluminous.

Mesh stockings have been in and out for so many seasons that they probably belong in the class with staples. They are having a good general sale, in both coarse and fine net, the former appearing to be the favorite. As some in the trade point out, "if


ROYERSFORD
NEEDLES
WHEREVER FINE FULL-FASHIONED STOCKINGS ARE KNIT
ROYERSFORD NEEDLEWORKS, INC.
ROYERSFORD, PA.

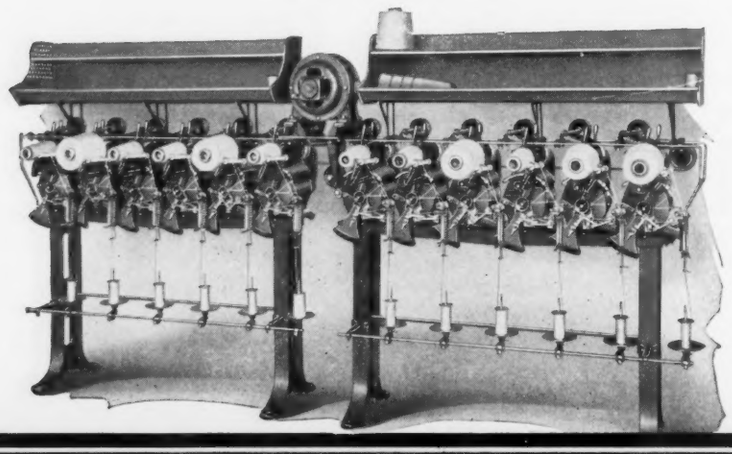
UNIVERSAL CONES

WHEREVER Silk or Rayon Cones are used—by circular or full fashioned knitters or by the weaver for filling or for warp — Universal Wound Cones are found at the fore front. Gear or Fixed Gain winds identical packages on every spindle, indefinitely, without adjustment or correction, while the L Drive permits any degree of slow or protracted starting, thus obviating the possibility of stretched or frayed yarn. For each type of cone now in general use there is a Universal No. 50 Winding Machine available, and each can be equipped with any of a variety of supplies: Overend, Skein to cone, — eliminating skein spooling — or with moistening or conditioning attachments.

LEESONA

UNIVERSAL WINDING COMPANY

BOSTON



321

UNIVERSAL WINDERS

women want to wear a mesh or net stockings, why not the kind that shows it is mesh?" The finer mesh goods do not betray their character, except at close range, it is pointed out, often being mistaken for regulation plain stockings.

Seamless knit net hosiery is on the market rather extensively and is passing over the counter at 85 cents and down. Assuming these will tend to make full-fashioned net appear commonplace and affect its sale, numbers of buyers for the trade are proceeding cautiously with commitments for the open work stocking—keeping up assortments but adhering to the policy of a low inventory. But the full-fashioned nets are to be "made safe" by varying types of heel construction that should have the effect of removing them from competition with seamless and dollar full-fashioned. And here is where the mechanics of hosiery get into the picture as likely to play a larger part in making for a safer market for the progressive producer and distributors than could dependence upon the theories of graduates from the school of economics.

Look for Advances in Machines.

Practical men among the builders of hosiery knitting machinery are, necessarily, looking for advances in mechanical performance for promoting sales, and manufacturers subscribing to the theory that modern equipment is needed for successfully competing in the wickedest markets in their experience as merchandisers, give close ear to the slightest intimation of innovations for producing maximum results on a minimum investment.

Accepting the word of full-fashioned machine builders, none is supplying 39-gauge equipment. Little has been installed in the last two or three years and not a great deal in the last five years. Most of that in operation may reasonably be supposed to be in poor condition and virtually obsolete so far as relates to production of perfect stockings.

"We are approaching a period when hosiery knitted on faulty machinery cannot be sold," said a leading figure in the machine trade, "and as sales of the cheap stuff fall away, more of the worn-out and obsolete machines will be scrapped. This will have the effect of curtailing production, because manufacturers will be very slow during the next year or two to install much machinery."

"Another way of looking at the vanishing 39-gauge equipment," it was ascertained from a rival machine builder, suggests re-conditioning of equipment in fairly good order and adding to it modern attachments for changing construction, to have it conform to style innovations. This would cost manufacturers less than installation of new equipment, it was held, and the "product of 39-gauge machines, now confined largely to off-price goods, would register in the standard price brackets." Thus would the output of hosiery made for price be gradually lessened and the trading-up program be encouraged."

Considerable of the mesh hosiery is knitted on 39-gauge machines. New clocking attachments knit into the mesh a variety of designs that are interesting style students. Self-clocking on the instep and carried half way to the knee was among the proven attractive displays at the Knitting Arts Exhibition. There lurks a suspicion that buyers will be able to overcome their aversion for novelties if, between the machine builders and the stylists there be found some one who stumbles upon a popular fancy.

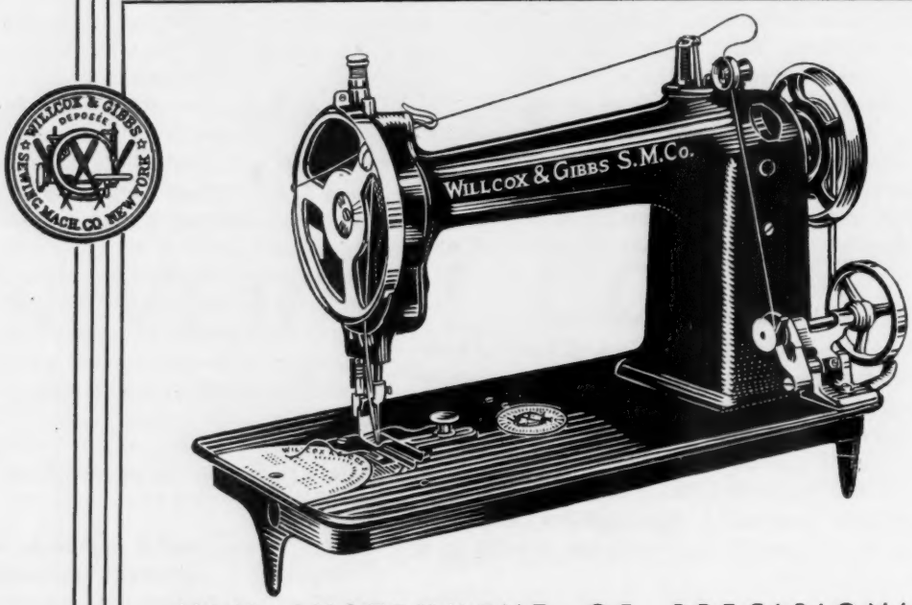
Admitting the proposal for restoring 39-gauge machines in an advance stage of obsolescence to a state of usefulness "sounds good," a machine manufacturing expert representative regards it not improbable that while the hosiery markets present a somewhat doubtful front it may be that manufacturers with shrunken bank accounts may regard it more expedient to re-build old equipment than to install new. In any event, this machine man says, "there will be no danger from increased machinery in place this year and next. Manufacturers are going to 'clean house' before putting in new furniture. I believe this sentiment exists generally in the machine trades, that none of us looks for the sale of much new machinery this year and not until well along in 1932. Of course, since they cannot make the best hosiery on obsolete equipment, these manufacturers will study modernization of plants. But I look for no greater production this year than we are having now. The over-expanded situation has started to right itself. We will see no lower prices, but better hosiery for about the same prices as dealers are paying now."

Hose Market Improvement Spotty.

There is a manifestly improved market for hosiery, but the improvement is spotty, due in some extent to presumptive large stocks as revealed when mill offerings represent radically low values. There is more activity among southern full-fashioned mills than in similar establishments, speaking generally, in the northern area. This was readily disclosed last month when manufacturers from both sections met in the Knitting Arts Exhibition.

Seemingly trustworthy reports made it appear few full-fashioned plants in the South were seriously in need of business. Several executives stated their mills were on a day-and-night operating schedule, one stating this applied to both his seamless and full-fashioned departments. There were at the time a few full-fashioned mills in and near Philadelphia employing two shifts on a capacity basis, one in particular making stockings for retail prices dimes less than a dollar a pair, and one producing a nationally trade-marked brand sold directly to the better class retailers. Numbers of mills making average price lines were comfortably situated as to orders, while as many more were idle or partly so. It so happened that several mills rigged for day and night operation of leggers did not have enough orders to warrant running more than one shift. This, it was pointed out, is a virtually profitless operating schedule. For manufacturers figuring cost on continuous operation of leggers, the cost increases materially when operating them only half of the time. The fact that, with so many mills in and near Philadelphia producing as a whole around 25 per cent less hosiery since the

THE LOCKSTITCH



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WILLCOX & GIBBS SEWING MACHINE COMPANY

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middle of February, there still were ample supplies for the trade, may be attributed to the extended basis of plant operation elsewhere, notably in the South, where, it is claimed in the trade, there has been afforded ample opportunity to establish southern hosiery in certain retailing centers where it never had obtained much of a foothold. It was stated by a Tennessee mill executive, "We proved to our satisfaction that our greater distance from the leading northern markets is really no obstacle to getting business in the North."

Harron Pushing Crepe Hosiery.

Having obtained a patent for crepe hosiery, the Harron Hosiery Co., Philadelphia, now is offering its French heel number in crepe construction. The crepe stocking, which has been on the market about one year, is sold direct to retailers for $14.50 and is sold by the retailer for $1.95 a pair, appears as about the better example of stockings for the high-price bracket, one of the two price groups in which some hosierys hold the bulk of this year's business will be done. The production is but 150 dozen pairs a day, and this has been sufficient to meet the demand for crepe hosiery. Mr. Harron recalls that it was a long time before numbers of leading retailers adopted the dip-dyed silk stocking, and harbors no doubt that eventually his patented crepe number will be largely accepted.

Hose Buying Spurred by Early Spring; Ingrain Silk Half-Hose Comes to Front.

TRADING in hosiery was brisked up by an early spring, ideal shopping weather prevailing in the northern area for a great part of April. Something was needed to put spring life into the market, and it came opportunely for mills and help, much of the latter being in the unemployed class. Early spring left an impress on the markets for men's and children's hosiery especially two groups which have had a better season than that of any recent year. Particularly have men's half-hose mills been favored in this respect.

Dyers and silk processors note a definite drift to ingrain silk half-hose, and some are having quite a business in weighting silk for hosiery mills. Now that the price of silk is so very low, it is pointed out, manufacturers can, by weighting, reduce their production cost, besides turning off a more lofty sock in feel and appearance than the dip-dyed. The more aristocratic appearance enables dealers to better compete with some of the exclusive men's shops maintaining higher and so-called popular price scales, after moving their prices up a nickel or so a pair. One result of selling the weighted silk socks, according to an authority, is to put the seamless construction in a higher class group. A manufacturer who has discontinued making rayon half-hose and turned attention to weighted silk, said in accounting for the change: "We are tired of wearing out $900 machines on socks that we have had to sell for $2.65 a dozen, when we can get more profit out of a dozen of weighted silk than from more than two dozens of rayon."

THE quickest and most economical way to get into production on new merchandise, is to send for the Brinton representative. Brinton makes circular Knitting machines of all kinds, for every purpose. Brinton engineers will help you select the precise Knitting machine you need — or will make it for you if necessary.

If one of the many types of Brinton Rib Knitting Machines or Open-top Jersey Knitting Machines, in all diameters, doesn't exactly suit your purpose — turn the Brinton staff of engineers, and the Brinton experimental department loose on your problem.

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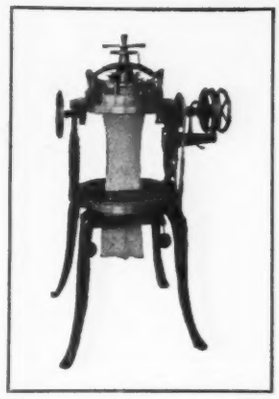
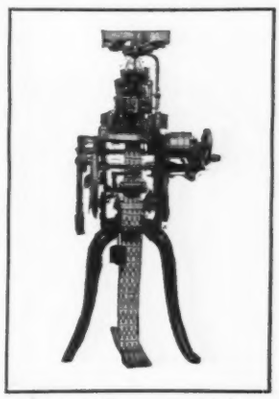


Plain Rib Body Machine



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Whether use of weighted silk can be credited with an increase in production of men's silk socks, the fact remains that there has been a slight gain for the seamless group, while full-fashioned declined slightly more than seamless gained. Men's seamless rayon also were in decreased output, for the current season, comparing February this year with the corresponding month of 1930. An off-setting gain was registered by cotton half-hose, while rayon and cotton in mixture lost in about the same ratio as did all-cotton. Taking the returns as a whole, there is revealed a considerably better situation in half-hose than a year ago, in that production and stocks in mills are more nearly adjusted to shipments and unfilled orders.

All intermediate interests tell of a better situation in juvenile hosiery, including infants' socks. While prices may not be on a parity with cost of raw materials and operating, there is comparative steadiness along practically the entire front, and dealers have been taking in goods more promptly, in some extent departing from the intensive hand-to-mouth policy. There are noted increased shipments of boys' misses' and infants, and more orders booked, while unfilled orders are off and stocks in mills are somewhat heavier, comparing with a year ago, but in a more favorable position in February than in January.

To knit children's stockings in the same designs as anklets is a mistake for the manufacturer who does it, says one of the craft, and it is no less a mistake for a retailer to put in stock anklets and seven-eighth length of like designs. A woman who had selected a pair of seven-eighth at 49 cents a pair balked at paying the same price for anklets, on the ground the price of the latter was too high, and the store lost a sale and the woman's favor, it is related by a manufacturer who chanced to be a witness to the incident. The price might have been no objection to the customer, he suggested, had not the two items been made from identical yarns and dyed in the same colors and patterns.

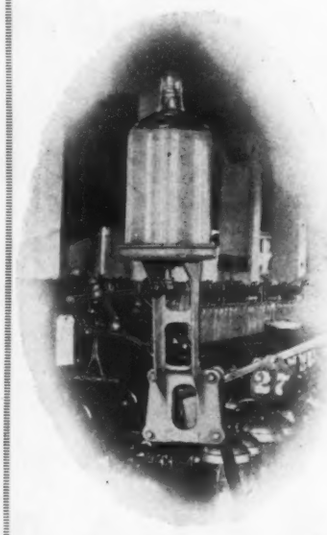
Heavy and Light Weights Scrambled in Underwear Primary Markets.

PROCRASTINATION of underwear jobbers in the matter of contracting for men's and boys' fall lines, which has resulted in downward revisions from some of the prices named at the opening, is given as the explanation for postponement of the opening by manufacturers selling to retailers direct. Announcement of some prospective reductions from last year's lists has had the effect of causing jobbers to be less concerned with getting their orders in early, that mills might go ahead with production.

It is expected the direct-to-retailer mills will open their lines almost three months later than usual. That is, they probably will come on the market in force around the middle of May, after having intimated they would be ready to name prices by the 1st of May. As retailers will not be asked to order their favorite nationally known brands until so late, jobbers seem to feel there is little need for them to be in a hurry to get lined up in the retail trade with

YOU HAVE WISHED FOR A SCIENTIFIC SILK MOISTENER

At last it is possible to adequately condition silk thread in the hosiery mill. This is made attainable with the new Strickland Moistening Appliance. The Strickland equipment positively eliminates all the former evils such as loss of time, crude measures, damaged materials and expensive wastes.



The Strickland Moistening Appliance is easily and permanently installed at minimum cost. It is already being successfully used in several mills where its merit has been proved. This neat, accurate money maker is a permanent fixture. Installed on each knitting machine, the only attention required is to keep it supplied with liquid only once or twice a day.

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REPRESENTATIVES IN ALL THE PRINCIPAL COUNTRIES OF THE WORLD

prices. They might "beat the jobbers to it," by going out ahead of them, but feel that, regardless of any trading advantage, retailers would put off buying until the last offering was laid before them. So, jobbers may be, in a way, letting some business go by default. Because the retailer mills will be unusually late in touring their trade, jobbers are less in a hurry to place their fall business. This is Alarm No. 2 over the ability of manufacturers to maintain prices, for, it is reasoned, the later the orders from jobbers are placed the greater will be the prospect of price competition, of which the trade already has had a taste in the present season.

Underwear seems to be having a hard session, with severe price competition in rayon goods and a wobbly market for raw cotton giving buyers for the trade a pretext for postponing commitments of both winter and summer weights. The former are especially a problem for manufacturers, in that it is indicated orders for fall deliveries will be received so late that mills will be put to the necessity of making stock goods in order to get off maximum output. That might leave them at the mercy of buyers as to prices, with competition for business no less keen than has been the rivalry for orders during the last two months.

Men's light weight cotton underwear has been in fairly brisk movement, but it was stated soon after the middle of April that hardly a jobber had bought anything like his season's requirements. Starvation of stocks was indicated in a sudden flow of rush delivery orders after a few days of temperatures a few degrees ahead of the calendar. Direct-to-retailer manufacturers have been very busy with shipments for some weeks. Good grade union suits of combed yarn have moved in somewhat increased volume. The twin button low cut suit seems to be not an outstanding favorite. Some dealers say they cannot sell them, due to the alleged difficulty of getting into them after laundering. The button front suit with half sleeves appears to have overtaken the twin button garment in the race for leadership. One of the more popular of this type goes to retailers for $10.-50 a dozen.

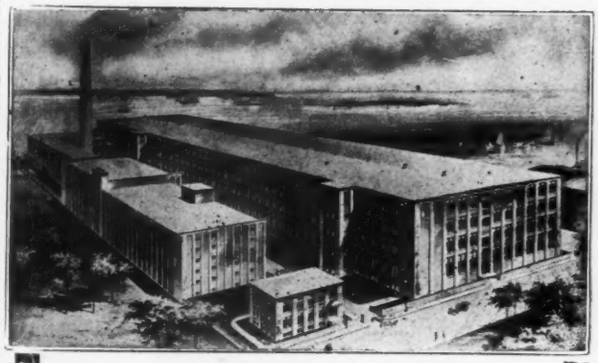
Boosters for Rayon; Cottons Neglected.

Cotton underwear for women is showing recessions from last year in volume of sales, aside from catalog house and chain store purchases, according to several primary market operators who are in position to get the best that is to be gotten out of offerings of cottons for women. It was believed by these same factors that, due to the more rigid economy said to have been forced upon many households, cottons would be in better demand for the 1931 light weight season. These trade evangels overlooked the propaganda being put forth by rayon interests, even with the aid, perhaps of certain machinery interests.

It was observed at the recent Knitted Arts Exposition that a working demonstration of a well known type of sewing machines was made on rayon lingerie for one of the foremost manufacturers of rayon cloth in Pennsylvania, who supplied the cloth. Necessarily the demonstration was a strong attraction

Quissett Mill

New Bedford, Mass.



COTTON YARNS

RASH PROMISES and various claims of one sort or another may land occasional yarn orders—but business that repeats of its own accord results from quality and uniformity.

The quality and uniformity of Quissett is evidenced through the predominance of this brand on current specification sheets. A predominance that has enjoyed consistent growth through its years of progressive, dependable service.

Carded and Combed Yarns in all Numbers and Descriptions.

Ply Yarns our Specialty.

Egyptians, Sea Island, Peelers, Sakelarides, Pimas, Peruvians and Quitex.

QUISSETT MEANS QUALITY

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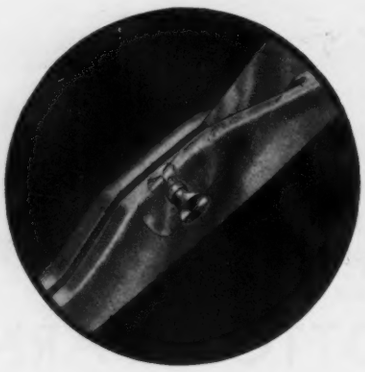
NON  TURNABLE

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STENCIL MACHINES

OIL STENCIL PAPERS

A. J. BRADLEY MFG. CO.
101 BEEKMAN ST., NEW YORK

evenings, when women and girls attend the show, and expert operatives from the rayon company's factory operated the machines, turning out every item in rayon lingerie.

In another section of the exhibition hall there were two style shows daily in which models displayed garments of another synthetic fiber. A half dozen or more cotton spinners hired booths at the show as resting places, rather than for pushing cotton yarns, which one spinner observed somewhat sarcastically, "are still used in men's linen collars".

Knitted Outerwear Going Forward.

Probably the strongest evidence that business is forging ahead in textiles is supplied by the knitted outerwear trades, and what testimony is at hand carries little comfort to cotton interests. Sweater manufacturers are booking fair business, after many weeks of waiting for look at buyers for the jobbing trade. Numbers of mills which recently were idle or partly so are operating to capacity, some of them until far into the night, converting worsted and mixture yarns into sweater coats for fall. Mill men say the call is principally for small patterns, with plain colors and white receiving the usual share of attention.

The busier mills, it appears, are those engaged on pure worsted and ignoring dealer requests for modification of their standards, for cutting a few dollars a dozen from the price. An executive who says his mill last year played for the favor of dealers more interested in repeat sales year by year than in low price, fared well, he says, after trying to meet competition in former years, and ascribes this year's increase in volume of sales to following last year's policy.

Shaker knit sweaters, the one-time popular heavy weight coat for outdoor and general rough weather wear, appear at this range as a lost art, so far as applies to the coming fall season. As illustrating the prospective light demand, a manufacturer states that an $1100 sweater machine installed a very few years ago and in good running order, was sold quite recently at private sale for 10 per cent of the builder's price. Some of the small mills making shakers exclusively have discontinued them entirely.

Bathing suits are at the peak of their production, with numbers of mills accepting no orders except for very late deliveries. Withdrawals have been announced by such mills as the M. & M. and the Puritan, both in Philadelphia, and the Hub, another Philadelphia establishment, which met the cut prices of several New England mills in the early days of the manufacturing season, and since then has been operating almost steadily with day and night shifts.

The perhaps more interesting item in knitted outerwear is women's suits, mostly on the sports order. Several mills for this class of garments have sprung up in Philadelphia in less than two years and all appear to be prospering. They are making suits for the higher price brackets. Another mill has added women's suits, and will be on the market with them shortly.

BONE-DRY UNSHRINKABLE WELL-FINISHED

HARD MAPLE HOSIERY BOARDS

THAT WORK ABSOLUTELY SMOOTH

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Give you that much desired finish that cannot be obtained from any other than wooden boards.

You get the length, lustre, *feel* that the goods should have.

Our special finish is highly recommended for silk and wooden boards.

We serve the best mills—send a request for list and same will be forthcoming.

JOSEPH T. PEARSON & SON CO.
Manufacturers
Kensington and E. Boston Avenues
PHILADELPHIA, PENNA.

STOPPAGE KILLS PROFITS

Stopping a machine, while a remedy is sought for an unexpected difficulty in dyeing, is an expensive business.

Guard against this by using Quaker Chemicals. They are absolutely uniform and pure. If you have a problem now, we'll be glad to send an expert to assist you.

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QUAKER CITY CHEMICAL CO.
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Knoxville, Tenn. Hamilton, Ont., Can.

The YARN MARKET

Philadelphia, April 18, 1931.

THE COTTON YARN trade is drifting on strange seas, without compass or rudder. That is about the manner some of the leading local traders have of indicating how they feel about the yarn markets. They maintain there are no precedents from which to reason out a conclusion, nothing in sight upon which they might base a prediction as to near future prices or needs.

Carded yarns have had a long, monotonous and profitless session. There were scattered weeks this year—only a few—when dealers and mill direct representatives felt the tide had turned for a reasonably long flow. Confidence in any such consummation was quickly shattered, and after every short-lived spurt in sales there were recessions from the last previous price level—progressive sinking.

If the radio broadcast by James C. Stone, chairman of the Federal Farm Board, on April 15, was intended to steady the nerves of the cotton yarn trade, it would have better served its purpose had Mr. Stone made a definite statement as to what it was intended to do with the 2,250,000 bales of cotton which he was quoted as saying the Cotton Stabilization Corporation took off the market last fall and the 1,300,000 bales of 1929 cotton which he said is accumulated; had he explained this, traders say they might have been more appreciative of the talk which they did not hear, but read the next day in the trade papers. Mr. Stone stated in his talk: "Economists tell us the price of cotton would have been at least two cents lower except for these measures." The yarn trade declines to accept this as meaning current prices of cotton about represent the bottom for which all have been looking.

What staggers the yarn trade most is the fact that while cotton has ruled comparatively steady, the only steadiness in yarns has been in slack buying, and that it is necessary to sacrifice profits, and then some, to effect sales of worthwhile weights of yarn. Price remained a conundrum through the first half of April. Sales did not establish rate, was an almost unanimous admission among traders.

Fifty thousand pounds of frame spun carded 18s on cones were sold during the week of the knit goods show in Philadelphia, at 18½ cents. This was said to be about equivalent to 19 cents for 20s/2 warps, 19 being a recent sale price against 20 cents then commonly quoted. Frame spun 10s on cones have sold within the week for 17 cents, 17½ being the usual asking price.

Ranking as the quietest item is underwear yarn for both light and heavy weights. This is not taken to mean that mills are having no business of moment in underwear, as some took in substantial quantities as long ago as last year and were many weeks without orders. Then, too, considerable lots of contract yarns are not being called in, the theoretical owners buying quietly in the open market as they need yarn. So, the yarn trade is without much definite knowledge as to supplies in mills ready for consumption, and therefore are unable to gauge approximate needs as the seasons run on. Weaving numbers have been in uniformly better call than yarns for the knitting trades, but the aggregate for both groups would represent but a fraction of the business that normally would be coming through in either.

Combed yarns appear to be less susceptible to cotton fluctuations than carded. Prices have undergone no change whatever by reason of the merger of combed spinners which is shaping. A leading mercerizer, not associated with any combination, reports the heaviest shipments in April for any month this year, and new business running slightly ahead of last month.

Philadelphia quotations on April 17th follow:

Single Skeins.

4s to 8s	17	10s	17½
12s	18	14s	18½
16s	19	20s	19½
24s	22	26s	23
30s	24		

Single Warps.

10s	18	12s	18½
14s	19	16s	19½
20s	19½ @20	26s	23½
30s	24½		

Two-Ply Skeins.

8s	17½	10s	18
12s	18½	14s	19
16s	19½	20s	19½ @20
24s	22½	26s	23½
30s	24½	40s	31 @32

Two-Ply Warps.

10s	18½	12s	19
14s	19½	16s	20
20s	20	24s	23
26s	24	30s	25 @25½
40s	32 @33		

Frame Spun Carded Yarn on Cones.

8s	17	10s	17½
12s	18	14s	18½
16s	19	18s	19½
20s	20	22s	21
24s	22½	26s	23½
30s	24½	40s	31 @32
30s dbl. carded	28	30s tying in	24

Two-Ply Combed Peeler Skeins and Warps.

8s to 16s	31 @32	20s	32 @34
24s	35 @36	30s	36 @38
40s	39 @40	50s	45 @46
60s	50 @51	70s	61 @62
80s	72 @74		

Single Combed Peeler Yarns on Cones.

18s	29	24s	33 @34
30s	36 @37	36s	38 @39
38s	39 @40	40s	40 @41
50s	45 @46	60s	50 @51
70s	62 @63	80s	72 @75

Mule Spun.

Carded Yarn on Cones		Combed Peeler Yarn on Cones	
10s	24	10s	32
12s	24½	12s	33
14s	25	14s	34
16s	25½	16s	35
18s	26	18s	36
20s	26½	20s	38
24s	29	22s	39
26s	30	26s	40
30s	31	28s	41
40s	38½	30s	42
		36s	45
		38s	47
		40s	48